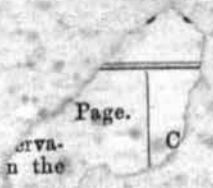


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THE CALCUTTA GAZETTE
FROM
JANUARY TO JUNE 1901.

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SUPPLEMENT TO the Calcutta Gazette.

WEDNESDAY, JANUARY 2, 1901.

OFFICIAL PAPERS.

Persons to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by post.

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APPOINTMENT OF A FAMINE COMMISSION.

GOVERNMENT OF INDIA.

DEPARTMENT OF REVENUE AND AGRICULTURE.

From the Proceedings of the Government of India in the Department of Revenue and Agriculture, No. 11—294-3 (Famine), dated 20th December 1900.

Despatch to Her Majesty's Secretary of State for India, No. 59, dated 25th October 1900.

Telegram from Her Majesty's Secretary of State for India, dated 27th November 1900.

RESOLUTION.

Governor-General in Council has decided, with the concurrence of His Secretary of State for India in Council, and in accordance with the course taken after the famines of 1876-78 and 1896-97, to appoint a Commission to collate and consider the experiences of the late famine while it is fresh in the memory of the Governments and the people, and to report on the differences in the methods of relief which have been adopted in the various provinces of British India, both as regards their success in saving the people from distress and also as regards efficiency and economy. The magnitude and severity of the drought, the unparalleled scale on which it has necessitated the necessary to conduct relief operations, and the heavy mortality notwithstanding these efforts, has been recorded in many parts of the country, and it is a pleasure to commend this course to Her Majesty's Government and to the Governor-General in Council as likely to be productive of valuable results in the future of future famines.

2. The report of the Commission of 1898, in its exhaustive survey of the principles and practice of famine relief as developed during the preceding decades, and in its full discussion of the technical details of the Famine Codes, obviously prescribes a starting point for the Commission which the Governor-General in Council proposes to constitute, and will greatly facilitate and abbreviate its labours. The drought of 1899 occurred while the recommendations of the Commission of 1898 were still undergoing examination by the Local Governments, and before definite conclusions as to their incorporation in the Famine Codes had been arrived at. The recommendations, however, were in a greater or less degree and in a more or less modified form acted upon in every province where famine prevailed, and largely influenced the policy which has been pursued. It is highly desirable that the results of actual experience as to their working should be ascertained and brought under review before the final revision of the Famine Codes is undertaken. This will constitute the first and most important subject of enquiry.

3. Connected with this subject is the relative use that has been made in the various provinces of the several methods of relief recognised in the Codes, and their results as regarded from the standpoint both of the successful relief of distress and of financial outlay. Gratuitous relief has been more largely resorted to in some tracts than in others, and has varied widely in form: relief works have exhibited great diversities in scheme and management; the difficult problem of adapting the relief system to the special requirements of the rainy season has been differently treated in different provinces; the wage scale, the effective enforcement of tasks and other tests of relief, the provision of adequate administrative, medical and public works establishments, are also matters in respect of which the practice has varied much. A perfect uniformity of method in the widely diverse conditions which famine presents is unattainable, but the degree of variation in the methods actually adopted cannot be wholly thus explained. A close analysis and comparison of the means and results should conduce to greater uniformity in the administration of future famines, as well as to increased efficiency and economy in relief operations. Considering results, the Commission will examine the mortality during the famine in each province with reference to its excess over the mortality in ordinary years, and to the causes of such excess.

4. Intimately connected with the system of famine relief are the subjects of loans to cultivators and others, and the collection of the land revenue. The use made of the loan system (*taccavi*) or other advances in the various provinces should be enquired into and suggestions should, if necessary, be made for improving or extending this form of relief. The collection of the land revenue demand in the several provinces and the extent to which relief was granted to distressed owners and occupiers of land by revenue suspensions or remissions are also matters for careful enquiry. Every province has its own regulations on this subject, which have been framed with special reference to the local revenue assessment system and to local conditions. Here, again, uniformity of treatment is neither practicable nor desirable. But in the late famine considerable divergence has occurred in different parts of British India, if not in the question of principle, at least in the method adopted for selecting the recipients of relief and in the machinery for granting it. From the Commission of 1878 to the present time all authorities have recognised that a prompt and judicious application of this form of relief within proper limits and subject to proper safeguards is an essential feature of famine administration. But there is room for differences of opinion and practice as regards the limits, the safeguards, and the machinery, and these considerations govern the application of the principle. The Commission may profitably examine the actual practice prevailing in the several affected provinces as exemplified in the late famine, with a view to ascertaining whether it is calculated to give, and actually does give, a proper measure of relief in the matter of the land-revenue demand in a year of drought and general distress. As regards the larger question of the incidence and pressure of the land assessment in the different provinces, and its effects on the well-being and resources of the agricultural population, the Governor-General in Council does not underrate the importance of the subject upon which he has already addressed the various Local Governments and

work out the application of his principles by the use of purely
als, and of such a kind that every child can provide its own
the principles of teaching.

withdrawal of the Kindergarten system from the rural schools
vinces cannot, in the Director's opinion, be taken to represent
of Kindergarten principles in Indian schools, but it really
he want of success of a particular (and for India, a mistaken)
ication of the principles.

proposed by the Committee does not follow at all in the
ral Provinces system. They proposed, as the Director explains,
from the stereotyped European system, and to introduce
which can be made with pieces of string, paper, leaves,
and objects of everyday life, such as a piece of wood, a box,
ir, a table or a school desk, simple lessons about plants.
"gifts" are to be given which children would find to be quite
dinary lives and experiences; but objects found in every school-
every village are to be selected and used in the school, and the
es of observation, reasoning, descriptive powers, &c., are to
ad practised on these familiar objects. School work will there-
developed part of their every-day life, while habits of accuracy,
will be inculcated by the process of stick-laying, and simple
ses and action songs. In the great majority of the subjects in
tion is to be given, everything which is treated of almost forms
rt of everyday life in the town or country, as the case may be.
expected that the teachers will, all at once, teach the new subjects
almost certain they will teach them badly, but what is contended
aching cannot be worse than the present entirely mechanical
ining the memory whereby all the other faculties are dulled at the
monotonous parrot-like exercises. It is urged that bad teaching
educational system will produce better results than bad teaching
d unsound system. Hence the change is considered necessary
ng the grave difficulties which will have to be faced.

on thus given by the Central Provinces is that the failure there
ne failure of a particular form of practice, and that to be a success
the system must be made to suit Indian pupils and Indian
and of such a kind that its cost will enable every pupil to take
ercises. All of this the Director has shown can be effected without
hanging principles of the system. That such is the case will
be references given by the Director as to what is now being done
cess in Madras and Burma, where the practice followed is one
dian life and circumstances; more especially so in the case of
thorities of which Province have entirely discarded the uses of
forms of Froebel's Gifts.

tenant-Governor is of opinion that the Director and his Com-
cessfully established their case. He believes with him that the
plan is the best and truest method of training and developing
ce of children, and experience elsewhere confirms the opinion
plan is adapted in its form to the circumstances and conditions
, it meets with perfect success. He accepts the recommendation
tee on this point in principle.

regards the second point, of the three courses possible the first
cated by the Committee in its reports. It is, however, evident
very serious difficulties involved in this proposal. To intro-
n simultaneously throughout the province, it would be necessary
specially train all the primary and middle school teachers in
ring some 50,000 at the least, some of whom (*i.e.*, those who
of good schools) are fairly intelligent and able, while others are
erior type, such as the *gurus* who start the so-called season
e task of training such an enormous number of teachers would
nd it is feared that the difficulties which might arise in this
militate against the success of the scheme and might give rise
the soundness of the scheme itself.

of the second plan, limiting the introduction of the scheme
rea, the difficulties to be met are of a precisely similar nature to
ribed, though smaller in amount. The main difficulty in this case
ach the inferior type of *gurus* in their new work within the time
en proposed to introduce the scheme. Another difficulty would

be that of selection of the areas for experiment, and a further might be found in cases where boys migrated from a school to another in which the old course of instruction was still maintained.

In the case of the third course, the proposal would be to a sory introduction of the new scheme to those schools which actually sent up for competition for scholarships of the middle and lower primary stages, in which classes of schools the gurus experienced and trained men, and to leave the *gurus* in schools such as season pathsalas, either to continue to teach as now in instruction, or to attempt the new should they wish to do so, competent to undertake it. The number of primary schools, is 47,714: of these not more than 16,444, exactly one-third compete for scholarships.

The Lieutenant-Governor has no doubt that the last course. In recently recommending the introduction of reform of similar character into Ireland, the Irish Commissioners were considering that the proposed changes "ought to be introduced, but gradually and tentatively," beginning with the larger cent based their conclusion on the fact that time would be required training of teachers, of whom those selected for initial instruction aided at the outset by the counsel and instruction of expert in 45 of the appendices to this Resolution). The Lieutenant-G opinion that these considerations have equal, if not greater, weight. It may be hoped that the inducement held out under this third most competent of the *gurus* to adopt the new system will succeed the best schools with masters willing to learn and more or less at themselves efficient teachers under the guidance and instruction. And progress will be facilitated not only by the initial restriction numbers to be trained, but also by the circumstance that those who come under first instruction will be the best of their class. has now finally arrived at the same conclusion, and the Lieutenant accepting, as he has, the principle of the proposals, decides that carried out by this method. The scholarship examinations for and upper and lower primary schools will accordingly be held 1904 and onwards in accordance with the new courses only scholarship courses being abolished from that date. Also in sending up candidates to the upper primary and lower primary examinations that date, examinations corresponding in standard to the standard examinations will be held in the new course. On the other lower primary schools which do not choose to send up pupils in the the lower primary scholarships examinations in the present A and will continue to be held. In schools which send up candidates onwards to the middle vernacular, primary, or lower primary examinations, two examinations will be held for rewards in set forth in the Committee's report in "third year of infant" "standard I" in exactly the same way as examinations in the standard which are held at the present time.

12. With reference to the third point, it appears that in the last few years the lower classes of High English schools were conducted on a vernacular basis, and are now conducted on what is English basis. This means that even in the lowest classes of English is almost exclusively used as the medium of instruction subjects that are taught in them. In plainer words a child rudiments of geography and history through English sentence explanations before he has mastered English sentences for himself. It is surprising that this system has been found to be perfectly dis sound instruction of the pupils in the English which their parent to acquire. The excuse for it lay in the belief that a child could not learn English too young, if he was to be a proficient in the language, it was a waste of time to teach him rudiments in his vernacular and the in English. The experience of even a few years has shown this entirely false. The child gets his instruction from a master class; his instruction is a matter of rote and not of intelligent English is of a type from which it never recovers. This method was begun in private schools; it has extended to the Government schools and aided schools, apparently from the fear that they would if they did not follow suit. No proper investigation of the

two systems appears to have preceded the change of basis, and certainly no formal sanction from the Government has ever been given to the system of teaching children in a foreign language from practically the earliest stages of their instruction. The teaching in the lowest classes of high schools through the medium of English was formally considered and formally condemned at a conference of the Inspectors of Schools which sat early this year, and by which a return to the former vernacular basis of instruction in the lower classes of such schools was advocated. In Sir John Woodburn's opinion the conference were altogether in the right. He has himself been greatly struck in visits to these schools by the frequent inability of the scholars to explain in their own language the meaning of what they read. A system which debars young students from an early training in their own vernacular cannot but be wrong. Where instruction is given from the very commencement of a child's attendance at school in a foreign language, the result could only be what it has proved to be—that the pupil learns merely by rote without in most cases obtaining any intelligent grasp of the meaning of what he is being taught; and if education is to be on a sound basis, we must revert without delay to the system from which we have so rapidly and almost unconsciously departed. In all Government high schools the medium of instruction in the lowest classes will hereafter be in the vernacular, and this will be a condition of aid to the aided schools. Over private schools the Government has no control, but the Lieutenant-Governor hopes that they will, in loyalty to their own vernacular, follow the example that has been set to them, and as an encouragement to that end, he directs that students in the lower classes of high and middle schools corresponding in educational standard to similar classes in middle and primary schools shall be allowed to compete for middle and upper primary scholarships on the same terms as students in middle and upper primary schools. There is at present no examination for such scholarships in the lower classes of those schools, and he hopes that this new privilege will form an effective incentive to the adoption of a system which appeals alike to experience and patriotism. The substitution of vernacular for English text-books in the first three lowest classes is probably the first step necessary to the reversion to the old system.

13. Having decided what should be done, the next and far more difficult step is to settle the manner in which effect is to be given to these conclusions. Obviously, the very first matter to be taken in hand is the preparation of manuals for the guidance and use of the teachers in the new system and of readers for the children; the second is the training of the teachers. Details as to the methods to be followed with reference to the preparation and supply of the requisite primers and teachers' manuals will be published presently, but it is to be clearly understood that one of the essential principles to be followed is that the objects required to illustrate the course of instruction must be such as can be obtained locally and at practically a nominal cost. The Lieutenant-Governor is compelled to anticipate that the compilation of these manuals and primers with the care and clearness that is necessary will occupy the better part of a year. In the meantime, the Kurseong Training School (which will commence work in February and for which a Principal of special experience has already arrived from England) will be utilized in the careful instruction in the system of the masters of the nine other training schools of the Province.

As soon as the teachers' manuals have been prepared, a copy will in the first place be supplied to each member of the inspecting staff (Inspectors, Deputy Inspectors, Sub-Inspectors, Inspecting Pandits, and Circle Pandits), as well as to every vernacular teacher of the manual relating to the class or classes of schools in which he is interested.

A conference will then be held by each Inspector of Schools of all Deputy Inspectors in his circle with the view of discussing the new subjects and methods of instruction, and of dealing with any difficulties which they may have found in the syllabus or in the teachers' manuals.

As soon as the new courses have been started in the training schools at the head-quarters of each Inspector's circle, the Deputy and Sub-Inspectors of the circle will be required to attend at the schools for a period of a month or six weeks to be instructed in the working of the new system.

When each Deputy Inspector or Sub-Inspector of Schools has completed his course of instruction at the training school, he will be required in all his future tours to call together at different centres, whether at thanas or at other convenient places in his subdivision, the Inspecting Pandits and the masters of such middle and primary schools of his beat as have sent up pupils for

scholarships, in order to instruct them in the methods of teaching the new courses, and at the same time to explain carefully the character and design of the teachers' manuals.

The Deputy or Sub-Inspector will also, whenever he may visit any of the schools in which the new course has been or is to be adopted, be expected to explain and demonstrate practically to the masters or gurus the nature of the new subjects to be taught, and the proper method of teaching them. The recurrence at intervals of six or eight weeks of the Sub-Inspectors' rounds will enable these officers to repeat and amplify their instructions, to ascertain and correct any mistakes or misapprehensions which may have occurred, and to inform themselves generally of the progress which each teacher may have made in dealing with the new system and of his capacity for further improvement. Each Sub-Inspector will have, on the average, 65 schools on the new system under his supervision.

It will also be desirable that the Deputy Inspector of each district should from time to time summon all Sub-Inspectors and Inspecting Pandits under his charge to some convenient centre, where there is a good school, which would be utilized as what might be termed a practising school for the demonstration of methods of instruction in a practical manner. Conferences thus convened might last for two or three weeks.

The Lieutenant-Governor is conscious that the scheme for the training of teachers is imperfect, but it will at least serve as a useful foundation for further developments in the required direction.

14. Sir John Woodburn has so far not made any allusion to the important matter of technical instruction. He wishes it to be distinctly understood that the primary object of giving a more practical turn to the general system of early education is not that of preparing boys for learning any particular trade or profession. The first aim of these reforms is here, as it has been in Europe and now under similar circumstances in Great Britain, to train and improve the intelligence of the young, whatever may be the future occupation of their life. The Irish Commissioners state that in their investigations on the Continent they "enquired particularly whether the literary side of school studies had suffered any loss by the change," and received a uniform assurance in every country "that no such loss had been observed, but that in some cases literary studies had been positively improved by the introduction of the new system, a result accounted for partly by the increased intelligence of the children, partly by the constant change and variety of their occupation, and partly by their increased interest in their work." It is true that the reformed methods will have the effect of giving to those boys who intend either to follow practical professions, such as those of Medicine and Engineering, or to take up as the occupation of their life any of the various trades and handicrafts of the country, a far better preparation than the narrower system hitherto in force. So far this is an immense gain. For, as the Irish Commissioners pointed out, "the present system of primary education is so one-sided in its character that it leaves the pupils quite unprepared for technical education." But, to quote their concluding words, "the system of education modified as we propose" (and it may be noted that these proposals coincide in principle entirely with those embodied in the present scheme) "would give an all-round training to the faculties of the children and would thus lay a solid foundation for any system of higher education, literary, scientific or technical, which might afterwards be found suitable to their talents and circumstances." The width of the Commission's enquiries gives a special weight to their findings, and the Lieutenant-Governor believes that the results of the system will not be different in Bengal from those which have followed it elsewhere.

ORDER—Ordered that this Resolution, with all the papers read and referred to, in the preamble to this Resolution, be published for general information.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,
Secretary to the Government of Bengal.

GENERAL DEPARTMENT—(EDUCATION.)

Darjeeling, the 1st July 1899.

RESOLUTION—No. 1921.

READ—

- Proceedings of the Agricultural Conference held in the Department of Revenue and Agriculture at Simla on the 2nd, 3rd, 4th, 5th, 6th, and 7th October 1893.
- Government of India's Resolution No. $\frac{15}{981}$, dated Simla, the 7th September 1895.
- Government of India's Resolution No. $\frac{19}{98-1}$, of 20th September 1895.
- Proceedings of an Agricultural Conference held in Calcutta on the 2nd, 3rd, and 6th January and 10th and 11th February 1896.
- Government Order No. 692T.—R., of 30th June 1896, to the Director of Public Instruction, Bengal.
- Government of India's Resolution No. $\frac{3}{39-1}$, dated the 20th March 1897.
- Letter No. 4630, dated the 18th August 1897, from the Director of Public Instruction, Bengal.
- Government Order No. 2679, dated the 12th August 1898.
- The report of the Committee appointed to revise the subjects and text-books used in vernacular education in Bengal, received with the Director of Public Instruction's letter No. 2713, dated the 6th April 1899.

Read also—

- A short report on the system of vernacular education in the Central Provinces by Alexander Pedler, Esq., F.R.S., received with the Director of Public Instruction's letter No. 477, dated the 16th January 1899.
- The final report of the Commission on Manual and Practical Instruction in Primary Schools under the Board of National Education in Ireland, dated the 25th of June 1898.

The question of remodelling the lines on which vernacular education in the Indian Empire has hitherto been based, has for a considerable time been exercising the most anxious consideration of both the Imperial and Local Governments, and it was more particularly in its relation to agriculture that this question engaged the attention of the fifth meeting of the Agricultural Conference held in the Department of Revenue and Agriculture at Simla on the 6th of October 1893. After considering the recommendations made by Dr. Voelcker in paragraphs 527 and 528 of his Report on the Improvement of Indian Agriculture, the following Resolutions were passed:—

Resolution I.—That, in considering the question of agricultural education and progress, the Conference desires to express the opinion that it is most desirable to extend primary education among the agricultural classes.

Resolution II.—That, as a general rule, instruction in agriculture should be combined with the existing course of education, and not depend exclusively on separate special institutions.

Resolution III.—That, it is most desirable that the Universities should recognize the Science of Agriculture as an optional subject in the course for a degree.

Resolution IX.—That, in the opinion of the Conference, education in the lower schools should be of such a practical character as to fit the pupils for technical pursuits including agriculture, as well as for literary and commercial pursuits.

Resolution X.—That the text-books used in schools should be written in the simplest language ordinarily understood by the people, and should be descriptive of subjects with which they are familiar; also that the use of pictorial lesson charts, illustrating familiar objects, should be encouraged.

Resolution XI.—That the system of training in normal schools should be adapted to qualify school teachers to give instruction of the character indicated in Resolution VIII.

Resolution XII.—That in each Province a Committee in which agricultural officers should be included, should be convened at an early date for the consideration of the questions raised in the preceding resolutions.

The Governor-General in Council, after considering the recommendations of the Conference, and after correspondence with the Secretary of State,

determined, before enunciating finally the principles or policy to be adopted, to give Local Governments the opportunity of fully examining the various subjects dealt with by the Conference, and with a view to affording them every facility in their investigation, deputed Sir Edward Buck to attend a series of Provincial Conferences and explain the various issues under discussion and the different methods proposed or adopted in other Provinces. It was explained that the Government of India believed that "greater success was to be expected from making instruction in the rudiments of Agriculture part and parcel of the primary system of instruction in the country than from teaching it as a subject apart from the general educational programme, and that such general enlightenment and intellectual expansion of the agricultural classes, as would enable them to perceive for themselves the small reforms which are within their means and opportunities would be more likely to produce substantial results than special instruction in particular agricultural processes." It followed therefore that the educational question which was given to each Province to answer was not merely how to adapt education to the training of agriculturists, but how the plan of instruction should be so fashioned as to promote in the pupils taught the power of assimilating easily any kind of technical instruction.

2. This phase of the question was discussed at the meeting of the Bengal Provincial Conference held on the 6th of January 1896, and it was suggested that the course of Science in primary and middle schools should be reconsidered and so graduated as to include at different stages branches of the elements of agriculture, care being taken to exclude words and ideas of which the pupils could have no understanding. Effect was to be given to this resolution by arranging for the introduction of a compulsory course of Elementary, Physical and Natural Science, including Zoology, illustrated as far as practicable by object-lessons, and the Director of Public Instruction was asked to report how he proposed to give effect to these suggestions. This he did in August 1897, and in March 1898 an impetus to the establishment of Agricultural education was given by the opening of the Agricultural classes at the Sibpur Engineering College. This was, however, only a scheme for a "Higher Agricultural Education" and still left the pupils of the vernacular schools unprovided for; and in August 1898 the Lieutenant-Governor called for proposals of a wider nature with a view to the introduction of a system of vernacular education designed more to develop the minds of the boys than to practise and strengthen their memories; and after indicating the points for

Mr. Alex. Pedler	...	President.
Mr. E. B. Havell	...	Members.
Babu Radhika Prasanna Mukerji	...	
Dr. J. C. Bose	...	
" P. C. Ray	...	
Mr. N. G. Mukerji	...	
Babu Barada Prasad Ghosh	...	
" Rasamay Mitra	...	

consideration, referred the matter for careful discussion and report to a small Committee of Educational experts whose names are given in the margin. Their report—a record of singularly careful and thorough research—has now been received, and

in it the Committee have shown how it is possible to adapt the principles accepted by the experience of Europe to the conditions of Indian vernacular education.

The changes recommended are changes which are of the most vital importance to the interests of education in Bengal, and before taking any action on the proposals made by the Committee, the Lieutenant-Governor considers it to be advisable to publish their report for general information, and invites any who may desire to do so to submit to Government on or before the 1st of October 1899 any criticisms he has to make on the proposals now before Government.

The view that the general principles on which the Committee base their recommendations to Government are such as will stimulate the intelligence of the scholars and lead to the material progress of the people of this Province, finds support from the success which has attended the introduction of modern methods and subjects of education in the Central Provinces. It would appear from Mr. Pedler's report that the first beginning was made in 1880, and though the progress made has been gradual, Drill, Drawing, Agricultural teaching, Physical Science, Kindergarten, and Object-lesson teaching are now recognised features of the education given in vernacular schools in the Central Provinces.

The increased interest with which the pupils accept the training provided for them has been manifest, and the result has been most beneficial both in the higher development of the intelligence of the pupils and in their discipline in school. Manual training was also introduced, and before it was omitted from the course of instruction (for reasons which Mr. Pelder believes to have been somewhat prematurely accepted), it had been sufficiently clearly demonstrated that its introduction in vernacular schools was not only possible, but suitable. Such statistics as are available on the subject go to corroborate the conclusion drawn by the Director from the numerous careful enquiries he made that the modern system can be introduced at no increase of cost to the State, and it is not an unsatisfactory feature of the Committee's proposals that the books the scholars would have to buy are cheaper than those of the present curriculum.

Since the report of the Committee was received, the Lieutenant-Governor has had brought to his notice the Final Report of the Commissioners* appointed to consider Manual and Practical Instruction in Primary Schools under the Board of National Education in Ireland. Part I of this work, which represents the continuous labour of two years and is based upon the evidence of the leading authorities in Great Britain, Sweden, Denmark, Germany, France, Switzerland, and Hol-

land, is printed as an Appendix to this Resolution; and there could scarcely be a higher tribute to the thoroughness and ability which the Bengal Committee have brought to bear on the work entrusted to their charge than the close correspondence between their conclusions and those of the Irish Commission.

REPORT OF THE COMMITTEE APPOINTED TO REVISE THE SUBJECTS, AND TEXT-BOOKS USED IN VERNAICULAR EDUCATION IN BENGAL.

IN obedience to the orders contained in the Government of Bengal's letter "Agriculture No. 2679, dated Calcutta, 12th August 1898, from M. Finucane, Esq., c.s.i., Secretary in the General Department, to A. Pelder, Esq., f.r.s., Officiating Director of Public Instruction, Bengal," the members of the Committee therein named have the honour to submit the following report:—

The Committee consider that the orders in the Government letter have required them to submit proposals for remodelling practically the whole scheme of vernacular education in Bengal, specially with regard to the subjects which are taught in various classes of vernacular schools, and the manner in which instruction is given.

It is, indeed, pointed out in paragraph 6 of that letter that the introduction of the study of such branches as Agriculture, Natural History, Sanitation, and Physics as compulsory subjects into vernacular schools, which is one of the principal orders in the letter, will itself involve the question of the methods by which such instruction should be given. It is also an instruction to the Committee (paragraph 5), that the aim in making alterations in the present system of education should be "more to develop the minds of the boys than to strengthen their memories. The object in view is the training of the powers of observation and the development of the powers of hand and eye." And again in paragraph 6 it is stated: "The Lieutenant-Governor is further of opinion that Elementary Drawing should form a subject of instruction in all primary schools."

The Committee have, therefore, in their proposals made suggestions for revising on modern lines the general curriculum of the vernacular schools of all grades from the infant stage up to and including the middle vernacular stage.

2. Working on the principle that the development of the educational structure is very considerably dependent on the nature of its foundations, the Committee first earnestly considered whether the instruction

The present system. which is now given in lower primary schools is of the type which is desired, and whether such education is not easily capable of being improved. The first stage of the present instruction in a *patsala* is for the children to be made to sit as still as they can, anything like activity being sternly repressed, while they have to repeat hour after hour ordinary multiplication and other tables for the purpose of committing them to memory. A more unnatural method of commencing the training of a child can hardly be imagined. Speaking generally, the lowest class of a lower primary school now works for about seven hours a day, of which one hour is given to learning the letters of the alphabet, etc., and only how to instruction in writing, while the remaining hours (5 hours a day) are devoted entirely to the repetition of arithmetical tables and the revision of old lessons. In the next higher class the length of time devoted to reading and writing remains the same, but rather less time is

devoted to repetition of tables and revision of old lessons, while European and Native Arithmetic and Mensuration (after the Native system) are here commenced. In the next higher or the lower primary class most of the subjects remain as before, except that the repetition of multiplication tables is dropped, while the reading of manuscript and a little Sanitation are taught.

3. Looking at this programme of work it can be seen how little the present system of education conforms to the principles formulated in the Government letter, which lays down in precise terms that the education required is intended "more to develop the minds of the boys than to strengthen their memories, and to train the powers of observation and develop the power of the hand and eye."

Hence it is clear that the orders of Government can only be carried out by making a drastic change in both methods and subjects, even from the very lowest or the infant stage of education.

* Report of the Committee of Council on Education for England and Wales, 1897-98, page 630.

4. The two leading principles which appear to be accepted in Europe as a sound basis for the education of early childhood are as follows* :—

- (1) The recognition of the child's spontaneous activity, and the stimulation of this activity in certain well-defined directions by the teachers.
- (2) The harmonious and complete development of the whole of the child's faculties. The teachers should pay special regard to the love of movement which can alone secure healthy physical conditions, to the observant use of the organs of sense, specially these of sight and touch, and to that eager desire of questioning which intelligent children exhibit. All these should be encouraged, under due limitations, and should be developed simultaneously, so that each stage of development may be complete in itself.

5. The principles which are here enunciated can, in the opinion of the Committee, only be fulfilled by the introduction of the methods originally put forward by Froebel, which are now known under the

name of Kindergarten-training. The principles which underlie this system are well-known. By Kindergarten children are trained and not taught, in the ordinary acceptance of the word. They are trained so as to arouse a desire to *be* something, to *do* something, and to *know* something. The children are encouraged to feel that each one possesses a certain amount of innate power and capacity, the gradual development of which depends on the individual's own activity. They are led to see that eyes, ears and hands all help in the acquiring of knowledge, and these are the channels through which all *first* knowledge is acquired. The teaching also develops all the sides of a child's nature. The games, marching and singing, of the Kindergarten system secure the healthy physical exercise and development so necessary to a growing child. The stories told to the children and the nature-teaching are so arranged as to develop the moral side of the child, and the habits which are formed of attention, of accurate observation and of thought, and the power to express thought concretely in form and in language, are most valuable intellectual and mental training. Another principle in Kindergarten-training is the recognition of the desire of almost every child to work, invent, or originate on its own account, and hence stress is always laid on the teaching of such subjects as drawing, modelling in clay, etc., which gives scope for such desires.

It is of course true that Kindergarten-training may be made an expensive and elaborate kind of education, but it is submitted that there is nothing in the above principles which necessitates any real expense, and that if the form of Kindergarten adopted is made suitable to the circumstances and local conditions of the pupils, little or no expenditure will be necessary. In India primary schools work at an expenditure of about a rupee per pupil per annum, and hence expensive or even moderately-priced gifts of Froebel cannot be provided in the primary schools of Bengal. The principles above enunciated must therefore be worked out on more or less new lines, and only the use of objects now found in almost every primary school will be necessary to carry out such teaching in the proposals made by the Committee.

6. Closely allied with the methods of Kindergarten-teaching is the so-called object-lesson teaching; indeed, the latter may almost be called a part of or possibly an extension of the former, as it is

dependent on the same principles. * Object-lessons cannot be dispensed with in teaching, if habits of observation are to be duly fostered, and they should always be treated as a means for mental exercise and not merely as a method of imparting miscellaneous and even valuable information. To fulfil this purpose, however, objects must always be present and in sufficient numbers, and the chief aim should be to call into activity observation and the construction of clear mental pictures, so that the intelligence of pupils may be exercised and developed.

7. The principle of teaching by object-lessons appears capable of far greater extension than is frequently considered to be the case. Usually object-lessons are confined to the exhibition of a few natural substances, such as minerals, plants, etc., or to the pictures of a few animals, but the

* See Circular No. 332, page 635 of the English Education Department for 1897-98.

Teaching of Geography and History.

method can easily be extended. Thus, if a Geography lesson is taught by visible illustrations, and by actual modelling in sand and clay for the production of miniature rivers, hill plains, mountains, etc., it really becomes an object-lesson. Tales from History, if graphically told and well illustrated by striking pictures, are almost equally object-lessons, while the facts of elementary science obviously form excellent subjects from this point of view.

8. In order to carry out the principles laid down in the Government letter, which are those fully accepted by modern educationists, the Committee propose that the first years of a child's school-life should be devoted almost entirely to training the senses and the powers of observation. To effect this the Committee wish to introduce Kindergarten methods at the very commencement of education. These methods will be supplemented by object-lessons and drawing, with possibly a certain amount of action-songs in the infant stages. Having commenced the development of the senses and powers of observation in the lowest stage, it is then proposed to strengthen and develop the memory and reasoning powers and to continue the training of the hand and eye, etc. It was also considered that training on Kindergarten principles should extend throughout the whole of the infant stage of education, that is, during the period when children are from about 5 to 7 years old. The Committee are of opinion that object-lessons should be a prominent part of the teaching of all classes up to and including the lower primary stage, and that the various subjects taught up to the upper primary stage should be treated as far as possible as object-lessons.

In the middle standard of education the necessity of teaching by the object-lesson method, perhaps not quite so pronounced, as proper habits of working will probably have been well established by the instruction up to the upper primary stage.

The training of the hand and eye by such work as drawing has been considered to be essential throughout all stages of vernacular education, and in the case of the education of boys the Committee think this teaching should be supplemented at about the age of 8 by a little manual work in the form of leaf-manipulation, etc. In the case of girls this subject would be replaced by needlework. At ages above this the Committee consider the manual training should be broadened and extended up to certainly the middle vernacular standard.

9. The Committee have carefully examined the list of elementary sciences which the Government have proposed to introduce into the curriculum of the schools, and they have accepted as feasible the Government proposals almost as they stand. They wish it, however, to be very distinctly understood that there is no intention of teaching or attempting to teach such subjects as Chemistry, Physics, Natural History, etc., as *sciences* to the children who attend the vernacular schools, but they wish to point out and make it quite clear that all that can be done is to present in a homely way some of the simpler and more important facts and truths of such sciences. These facts must be suited to the intelligence of children and taught in a more or less practical way, so that the facts may be assimilated and give food for observation, thought, and inference, and thus be a help to the children in their everyday lives later on. Really it would be more correct to designate the facts which are intended to be taught under the headings of Chemistry, Physics, Natural History, etc., as the "*Science of everyday life.*"

10. The Committee have also considered that if children are made, while at school, to work solely at their books or studies, only one part of what may be called a complete education is given. They believe that a true system of education should try to develop not only the powers of observation, the mental faculties, and the power of the hand and eye, but that no system can be called complete unless at the same time the physical powers are fostered and strengthened to the utmost possible extent.

It is specially the case with young children that, if they are kept for any length of time consecutively at book-work, they become listless and tired, and make little real progress. On the other hand if book lessons are alternated with lessons which require action and movement, then the children return to their books with renewed interest and vigour. For this reason the Committee consider it to be essential to introduce action-songs into the infant stage of teaching, elementary drill into the next higher stages, and drill and gymnastics for boys, or drill and calisthenics for girls into the remaining stages of vernacular education.

In the Central Provinces, for instance, an extremely complete system of drill and gymnastics has been introduced into the vernacular schools, and has been in force for several years. The pupils take very great interest in such exercises and they become most expert. They are smartly obedient to short words of command, and exhibit not only great skill in the exercises, but the excellent discipline which is now shown in these schools both in and out of class is an eloquent testimony to the mental discipline which a good system of drill enforces.

11. There appears to the Committee to be no necessity for them to defend in detail the introduction of any of the above subjects into vernacular education in Bengal. In the case of Kindergarten-training, object-lesson teaching, drawing (hand and eye-training), needlework for girls, manual work, and drill, they are fully convinced of the necessity for their study, and they consider that there are no insuperable difficulties in the way of their introduction. The success which has attended the systems of education in Europe since the introduction of these subjects is in itself sufficient to prove their suitability. In the case

of the science subjects, or what may be called the "Science of everyday life," it is proposed to introduce the facts required into the ordinary class readers, and hence these can scarcely be said to be new subjects, but rather an attempt to direct the reading work of the pupils to subjects which are of interest and importance to them in their everyday lives, instead of requiring them to read books which rarely contain any useful information, and are frequently of a very uninteresting nature.

12. As appendices to this report (Appendices A and B) two syllabuses are given. The first is the detailed statement of the subjects and the extent to which it is proposed to teach them in all the classes of the vernacular schools, while the second syllabus gives a condensed view of the detailed syllabus.

It will be convenient to note here some of the leading points of the syllabus. Free-hand drawing is introduced at the earliest stage and runs through the whole course. Manual training for boys, in the form of leaf-manipulation, paper-cutting and folding begins in the A class of the lower primary; as needlework for girls it begins in the third year of the infant class or class B of the lower primary. Drill for boys and girls runs through the whole course. Under the head of Reading, beginning with the A class of the lower primary, there is a list of science subjects which, without the explanation given in the next paragraph and in paragraph 9, may seem to impose too great a burden on the students, but on examination it will resolve itself into a simple reading course arranged as follows:—For boys in town schools, some elementary notions of the simplest facts and principles of Botany, Natural History, Hygiene, Physical Science, and Chemistry. For boys in country schools, a similar course, only with Agriculture substituted for Physical Science and Chemistry. For girls in both town and country a similar course of Botany, Natural History, and Domestic Economy only. The reader itself will be written in the most simple and comprehensible language, devoid of technicalities; and, to minimise the danger of the reading exercise degenerating into learning by rote, the different subjects up to Standard IV are to be illustrated and explained as far as possible by means of object-lessons.

The advantages of a course of Agriculture for village schools in Bengal need not be entered upon. Naturally this subject becomes of a more technical character than the other Science subjects, but at the same time it will be treated in a manner suitable for the age and understanding of schoolboys. In Standards V and VI practical work in a school garden is introduced. The syllabus for Standard IV of the subject "Writing" may be noticed in this connection, as a part of it has indirect reference to Agriculture. It was brought to the notice of the Committee that in very many cases raiyats unwittingly placed themselves in the power of money-lenders through absolute ignorance of the meaning of the documents to which they subscribed. The Committee, therefore, were of opinion, considering that they were providing a course of education mainly for the agricultural classes, that it would not be out of place to introduce as an exercise in Writing the forms of simple documents which are commonly used by raiyats. Mensuration will include a course of simple practical Geometry. In the two highest standards Euclid is introduced as an alternative subject only: in the present course it is compulsory. The subject of moral training will be considered in the selection of pieces for the literature book and in subject IX (Poetry).

13. As it may be objected that several new subjects are proposed to be introduced in the curriculum, it is well to state that the increase of the course is only nominal, for most of the new subjects are only in substitution for others which are now taught.

Thus, for instance, in the lower primary course, there are subjects in the present curriculum which partly or wholly go out in the new proposals.

Taking the case of the B and A standards of a lower primary class, corresponding to the two stages of infant training, the children will be practically relieved of the work in reading and also in learning multiplication tables by rote. In their place the children will have to take up Kindergarten occupation and object-lessons. In the lower primary class the time at present spent in reading and in working at the *Sarir Palan* (Science of Sanitation) will be devoted to studying the new primer for Standard I in what has been called the "Science of everyday life." The same remark which has just been made with reference to the lower primary class will almost hold good for all the classes above it, as it is proposed that the Science Readers which are to be prepared should be substituted for the ordinary reading books now used in the schools.

14. Again, writing is usually taught to the children in all the classes of vernacular schools at least an hour a day; it is proposed that a portion of this time, say, two hours a week, should be devoted to Drawing. Arithmetic, multiplication tables, etc., are now taught at least 2 to 2½ hours a day, and in some classes for a much longer time. Under the new scheme the tedium of the children's work in the infant stages will be lightened, for the idea of numbers will be introduced during the Kindergarten and object-lesson work, when dealing with the leaves of trees, the fingers of the hand, etc., so that in the two lowest classes the Arithmetic will be more like systematised play than a serious study. It is also thought that the learning of multiplication tables should certainly be postponed to the second period or year of study of the infant stage. In the same way it is thought that the children should not learn the letters of the alphabet till the second year of tuition; while they will only commence their full course of reading and writing in the third year of study.

15. Again it may be remarked that in the present upper primary course the following subjects are taught:—Literature, Science, and Grammar, which may be considered to be replaced by the Science Reader. Writing is to be partly replaced in the new scheme by

Drawing. The dry facts of History and Geography now taught in the upper primary schools are to be replaced by interesting Historical and Geographical Readers, which will also include stories with a moral tendency. Euclid, now taught in the two classes of the upper primary school, will be replaced by Geometrical Drawing, and so on. Practically the only additional subjects in the proposed new courses will be Drill and Manual Training. These lessons must be really looked upon as a relaxation, and it is believed that, as is found to be the case in England, the introduction of these additional subjects will enable the other work of the school to be carried out more efficiently and expeditiously.

Hence it will be seen that the new scheme proposes to relieve the children of a considerable amount of tedious routine work, and to substitute for it lessons which will be at the same time more instructive and more interesting.

16. The statements appended to this report (Appendices E to G) are time-tables giving the number of hours to be spent every week in each of the prescribed subjects in the different standards, for the lower primary, the upper primary, and the middle schools. With a view to diminish the pressure on the pupils at the infant stage, care has been taken to restrict school-work to 18 hours a week for the first stage, 24 hours for the second, and 25 hours for the third stage, while 27 hours have been assigned to both the first and second standards. From the third to the sixth standard the number of school hours has been fixed at 30, including four hours for drill and manual work, which, according to the experience gained elsewhere, afford marked relaxation from purely intellectual labour.

17. The Committee consider that though the syllabus of studies now put forward is based mainly on the existing capabilities of schools of different grades, it will be some time before it can be effectively taught in those institutions. They are of opinion that a period of two and-a-half years should be allowed to elapse, from the date of publication of the syllabus, for schools to adapt themselves to their altered requirements, and that the first examination for scholarships under the revised standards should be held in 1902. The Committee do not consider it expedient to recommend the partial introduction of these standards, either in particular localities or in particular grades of schools, at an earlier date, as the present system of scholarships embraces both urban and rural areas, which cannot be educationally severed from one another without the creation of practical difficulties. They therefore venture to recommend that all classes of vernacular schools be given notice at an early date that the examination for scholarships will be held under the new system from the year 1902. This recommendation is made on the assumption that the middle and upper primary examinations will continue to be held before the Durga Puja holidays, and the lower primary examination in November or December as at present.

18. The necessary preliminaries to the introduction of the new scheme will be three. First, the immediate introduction of teaching the new subjects into training schools, so as to enable them to turn out rapidly teachers qualified to take up school work under the new system. Second, the training of Inspecting Pandits, Sub-Inspectors, and Deputy Inspectors of Schools, who will have to be familiarised with the methods of teaching now proposed to be adopted. They may be invited to see actual work under the syllabus in the training schools for a week or ten days, and with the help of the knowledge thus gained, they can be expected to aid the teachers in introducing the system. Third, the preparation of manuals for the teachers and text-books for the students.

19. Appendix C gives a statement of the books and manuals required under the proposed new scheme. They consist of two Teachers' Manuals, one Drill Book and the Drawing Books for the use of the teachers, and the following text-books to be purchased by students:—

For the Lower Primary.

One Reader and one Arithmetic Book.

For the Upper Primary.

One Science Primer.
One Historical, Geographical and Moral Reader.
One Arithmetic Book.

For the Middle Vernacular.

One Science Primer.
One Literature Book and Moral Reader.
One Historical and Geographical Reader.
One Arithmetic Book.
Euclid (alternative).

20. Referring first to the Manuals for Teachers, the Committee are of opinion that the necessity for them is sufficiently shown by the inefficiency which is to be found in the work of many teachers in primary and other schools in Bengal.

The *gurus* in many primary schools have never seen what good or proper teaching is like, and they have never received any instruction as to the best methods by which such teaching should be given. The Teachers' Manuals, which the Committee consider should be prepared at once, will deal with the work required to be done by a school-master, and indicate

the nature of the subjects to be taught and the precise method by which the instruction should be given.

21. The vernacular education which is being dealt with in this report may really be divided into four stages—the Infant stage, the Lower and Upper Primary and the Middle stages. In the Infant stage practically everything depends upon the teacher. It is therefore necessary to supply each of the lower primary *gurus* with a manual giving very full instructions as to how the teacher should conduct the training of the senses and how he should proceed with object-lessons, etc., which are detailed in the syllabus. This manual, called the Junior Teachers' Manual, would also indicate more briefly how the remaining subjects up to the lower primary standard (*i.e.*, standards I and II of the syllabus) are to be taught.

The second manual for the senior teachers would go rather more fully into the methods of managing the classes of a school, into the methods of maintaining discipline, the methods of keeping school registers and accounts, the requirements as to cleanliness and sanitation in school-rooms and school-houses, and other matters of the same kind, and, in addition, it would explain in detail the principles upon which the teaching of the classes of an upper primary school should be conducted.

A few additional chapters dealing with the new subjects taught in the middle schools, and on a few other matters, would be sufficient to make this second book suitable for the use of teachers in middle schools, as well as for those in upper primary schools.

The subjects which are to be treated in the two Teachers' Manuals are given in detail in Appendix D.

22. The want of drawing examples for Indian schools has been supplied by a series of four books lately prepared under the supervision of the Superintendent of the Calcutta School of Art, by order of the Government of India. To make them more complete some additional examples are now being prepared, and it will only be necessary to arrange for a cheap edition of the whole series to make it suitable for use in primary and other schools in Bengal.

An excellent Drill book, published in Hindi, embodying the native form of gymnastic exercises, has been introduced into the Central Provinces schools with marked success. The Committee consider that the Drill book for schools in Bengal should be framed on similar lines.

23. The scope and method of the text-books required for the students are sufficiently indicated in the detailed syllabus. The number of pages to be allotted to each subject in the different standards and the selling prices of the books are given in Appendix C.

Method of procuring the text-books and manuals required.

24. It remains now to consider the best method of procuring the class of text-books and manuals required.

Two alternatives were considered by the Committee—

1st.—To rely on private enterprise.

2nd.—To depute official or non-official experts to prepare them, on suitable terms as to remuneration and adoption of the books by Government.

After much deliberation the Committee decided that the first course was preferable, as it would disarm much of the opposition and ill-feeling which was sure to be aroused among authors and publishers by the unavoidable interference with their vested interest in existing text-books, involved in the reorganisation of the present curriculum. Any attempt on the part of Government to create a monopoly in the preparation of the new books might easily give rise to a strong agitation against the whole scheme. Another advantage of throwing open to competition the work of preparing all the books required would be to relieve Government of the difficult and somewhat invidious task of nominating experts. It is clear that no single author can be an expert in all the subjects which are dealt with in the Science Primers. It would therefore follow that some one author must act as an editor of a book or series, employing experts to write sections of the work which he would incorporate in a primer. Hence there would be a further and grave difficulty if it were decided that Government should undertake the preparation of the Science and other readers.

The Committee therefore considered that the best course to follow would be to notify publicly the manuals and text-books required for the different classes of schools, the subject-matter and lines on which the books are to be drawn up being clearly specified, and to invite authors and publishers to submit works for the approval of a Committee to be hereafter nominated by Government. The books might be written in any vernacular used in Bengal, but a very full type-written summary of the contents in English should be submitted with each book. The authors or publishers, as the case might be, of the works selected would be allowed to retain the copyright, but they would be required to undertake the printing and publishing on their own account. The maximum selling price is indicated in Appendix C. With regard to the text-books for students and the Teachers' Manuals, the Committee consider that the copyright of works selected, being a property of considerable value, would offer a sufficient inducement for authors and publishers to compete without any honoraria being given, but probably Government would have to give a guarantee that no changes would be made in the books for a certain time, perhaps for five years.

25. The financial effect of the scheme can as yet be estimated only approximately.

Financial effect of the scheme.

The Committee are of opinion that the new standards of education can without difficulty be taught in the schools by the present masters. Hence no additional expenditure will be thrown on public funds from

this cause. The Committee do not expect that at the outset the teaching in some of the new subjects will be very satisfactory, but, as suggested in paragraph 18, steps will be taken to gradually raise the standard of teaching. The Committee are convinced that the teaching of the new system cannot possibly be less satisfactory than the teaching at present carried on. With regard to other items of the cost of the new scheme, the Committee have come to the conclusion that the preparation of the text-books for the pupils as well as the two Manuals for Teachers should be left to private enterprise. If this recommendation be carried out, the cost to Government of the introduction of the scheme will be practically nothing except what is incurred in the publication of the Drawing books and the Drill book, District Boards and other local authorities will have to provide the lower and upper primary schools with copies of the Teachers' Manuals and the Drawing books and the Drill book. The total cost for each lower primary school will thus be about 10 annas, and for each upper primary school about 12 annas. The number of lower primary schools in these Provinces being 43,483, and of upper primary schools 4,113, the local authorities will have to incur an expenditure of about Rs. 32,000 for supplying these books to the schools. As most of the lessons suggested in the syllabus deal with common objects, the Committee trust that the articles required will be secured by each school locally without any extra cost. A sum of 4 annas a year may, however, be put down as covering the entire cost of these articles for a lower primary school. In that case about Rs. 12,000 will have to be provided either by the school *gurus* or the villagers. In upper primary schools the annual cost may probably be a rupee, and in middle schools the expenditure may vary with the ability of the school to bear it.

26. It remains to be seen how the changes about to be introduced are likely to affect the students of the different grades of vernacular schools for whose benefit the Committee have endeavoured to revise the entire curriculum of studies. The number of pages of text-books gone through by a candidate for a middle scholarship under existing arrangements is about 1,400, and the cost of the books is about Rs. 6, while under the scheme here set forth the number of pages will be five to six hundred and the cost one rupee to one rupee eight annas. In addition to this, drawing appliances, costing about 8 annas to each pupil and one rupee to the school, will have to be provided. In respect of the Upper Primary Scholarship class, the pages at present come up to 1,050 and their cost to about Rs. 2-13, while the new scheme reduces the pages to 300 or 350, and their cost to 8 to 12 annas or to perhaps a rupee, including drawing instruments. In the same way the Lower Primary Scholarship class now has to go through 230 pages, the books costing about 10 annas, while the new scheme gives 140 pages, costing 6 annas. These figures give some idea of the relief which would be afforded to students of vernacular schools of different classes in respect of the burden of text-books and their cost to the pupils.

27. The Committee are of opinion that it will be time to discuss the question of assigning different values or marks to the separate subjects for the purposes of the different scholarship examinations when the Government have intimated their decision on the scheme embodied in the present report. The Committee, therefore, consider it premature to make any detailed proposals in respect of marking for the present.

ALEX. PEDLER	President.
E. B. HAVELL	Members of the Committee.
RADHIKA PRASANNA MUKERJI	...	...
J. C. BOSE	...	...
P. C. RAY	...	...
N. G. MUKERJI	...	...
BARADA PRASAD GHOSH	...	...
RASAMAY MITRA	

The 6th April 1899.

APPENDIX A.

THE DETAILED SYLLABUS.

NOTE.—It is of the utmost importance that all objects which are used to illustrate the courses of instruction in vernacular schools should be selected from materials or things that are commonly found in every school, or which can be obtained in every village without difficulty and without cost. This rule applies to objects which are to be used for the training of the senses in the infant classes, and for object lessons, etc., and also as far as possible to those used in the teaching of the science of every-day life.

INFANT CLASS.

The following "Kindergarten" and "Object-lesson" subjects shall be prescribed for the first stage of instruction before the children are allowed to begin to learn their letters or to learn to read, &c.:—

FIRST PERIOD OF INFANT CLASS—ONE YEAR'S COURSE.

Age about 5 years.

A.—Kindergarten and Object-lessons for training children by observation or impressions obtained through the senses—

1. Through the eye—

(a) Lessons on form.

Curved lines.

Lines, straight and crooked.

Ball-shaped bodies.

(b) Lessons on colour—

Black and white substances.

Yellow and red ditto.

Blue and green ditto.

2. Through the hand—

Things, hard and soft.

" rough and smooth.

" heavy and light.

" brittle and tough.

3. Through sense of taste—

Things, sweet and sour.

" pungent or hot, sour, salt, and bitter.

B.—Object-lessons on things of every-day life, such as, a flat board or a piece of wood, a box, a stool or chair, a table or school desk; also very simple object-lessons about plants, growing and flowering, indicating the root, the stem, the leaves, the flowers, etc., and their simple uses, and showing that a plant must be watered for it to continue to live.

Very simple lessons about the human body—

Parts of the body—the head, arms, legs, hands and feet.

What the body is made of (bones and flesh).

C.—Training of hand and eye—

Drawing of curved, straight, and crooked lines.

Ditto squares and oblongs, circles and figures like circles bounded by curved lines.

D.—Very simple lessons as to different kinds of animals—

Some animals walk only.

Ditto have 2, 4, and more legs.

Ditto crawl.

Ditto fly.

Ditto swim.

Ditto walk and fly.

Ditto walk and swim.

Necessity of kindness to domestic animals.

Kindness of children to one another.

E.—From the object-lessons on the leaves of trees and on the hands and feet, etc., the idea of numbers can be readily introduced, and from numbers to addition, subtraction, and simple mental arithmetic.

F.—The children are to be allowed to learn to write the numerals about this stage.

G.—The children must be trained daily in simple physical exercises and in action songs.

H.—Kindergarten occupations such as stick-laying, etc.

SECOND PERIOD OF INFANT CLASS—ONE YEAR'S COURSE.

Age about 6 years.

A.—Training through the senses—

1. Through the eye—

(a) Lessons on form—

Extension of lessons given in first period.

Also lessons on angles and on triangles of various shapes.

Also lessons on cube and brick-shaped bodies.

(b) Lessons on colour—

Extension of lessons given in first period.

Grey, orange, purple, brown.

2. Through the hand—

Extension of lessons given in first period, showing various degrees of the properties then tested.

3. Through sense of taste—

Extension of lessons given in first period.

4. Through the ear—

Sounds, loud and soft.

„ distant and near.

„ pleasant and unpleasant.

Different animals give different sounds.

Sounds of pain, sounds of pleasure.

Sounds give spoken language.

5. Through the organs of smell—

Pure air has no smell.

Air which has smell is not pure.

Sweet or pleasant smells of flowers.

Unpleasant smell of rotting or decaying vegetation.

Unpleasant smell of rotting or decaying animal matter.

Air with bad smell is unhealthy to breathe.

6. Lessons on size and measurement—

Length, breadth, and thickness.

Measures of length, both vernacular measures, and the yard, foot, and inch.

B.—The following object-lessons on common things:—

1. On a stool or chair.

2. „ a slate and pencil.

3. „ a book.

4. „ a tree and its fruit.

5. „ a mango and plantain.

6. „ seeds.

7. „ grass.

8. „ a plant yielding fibres which the children can extract.

9. „ the parts of the human body in greater detail than in the first period.

10. „ a cat.

C.—The hand and eye should be again trained by simple drawing exercises of the same character as those in the first period, but rather more advanced, with the drawing of triangles, rectangles, pentagons, etc., in addition.

Tracing outlines of leaves of plants of various shapes and of other flat bodies on slates. Leaves of plants may be pressed between sheets of paper (old newspapers) to make them lie quite flat.

After tracing a leaf or other flat object on the slate, the pupil should be required to make a freehand copy of his own diagram by the side of it, and compare it and correct it by placing the original object over it. This would help to train the eye and would fix the form of the object more clearly in the memory than simple tracing would.

D.—At this period the children are to begin to learn their letters, etc., and to write the letters of the alphabet and to form short words.

E.—Additional arithmetical exercises, multiplication tables, etc., should be learned. Slates may be used for the simple arithmetic.

F.—Short pieces of poetry should be committed to memory. Some of these should teach morality and the duties of children.

G.—Simple physical exercises and action songs.

H.—Kindergarten occupations such as stick-laying, seed-work, etc.

THIRD PERIOD OF INFANT CLASS—ONE YEAR'S COURSE (EQUAL TO STANDARD B OF PRESENT PRIMARY COURSE)

Age about 7 years.

A.—Training through the senses—

1. Through the eye—

- (a) Lessons on form should include the notions of perpendicular, horizontal, oblique, parallel lines, the circle, sphere, cylinder, prisms, pyramid, and cone.
- (b) Lessons on colour should deal with dark and light colours, and with the varying shades of such colours as red, blue, green, yellow, etc. Primary and secondary colours, browns, greys, etc.
- (c) Lessons on the four cardinal points.

2. Determination of weights with the use of bazar scales.

3. Elementary notions about time should be given (indigenous and European), to include the year, month, week, day, hour, and minute, also division of the year into seasons.

B.—Object-lessons—

3. Further lessons about plants—

Seeds to be sown and grown to form plants.
Object-lessons on plants, such as pumpkin, and on vegetables, such as brinjal, beans, etc., for food.

4. Further lessons about the human body— The blood, the brain, the skin.

5. Object-lessons about birds (pigeon, duck). Simple lessons about the cow.

6. Object-lessons on vessels—

An earthen pot.
A water glass or a bottle.
A brass *lotah* or a brass plate (*thala*).

7. Object-lessons on common metals.

" coins, copper and silver.
" nails, screws.
" a knife.
" a key for a lock.

8. Object-lessons about plants yielding fibres, more advanced than in the previous stage.

The use of various fibres in the manufacture of cloth for clothing.

C.—Drawing (Hand and Eye-training)—

Drawing on slates, of rather more advanced character than in the two previous stages.

Drawing outlines of leaves, etc., from memory must be practised.

D.—The study of reading and arithmetic to be continued and before passing on to the next stage the children should be able to read very simple language, written and printed, and should be able to write slowly, very simple words from dictation.

E.—Verses on the duties of children should be committed to memory and recited.

F.—School Drill also to be included.

G.—Needlework (*for girls only*).—Hemming.

H.—Kindergarten occupations such as stick-laying, seed-work, paper-folding, etc.

STANDARD I—ONE YEAR'S COURSE (CORRESPONDING TO THE "A" CLASS OF A LOWER PRIMARY SCHOOL).

Age about 8 years.

Class subjects.—Reading, Writing,* Arithmetic,* Object-lessons and a Primer, with Drawing (Hand and Eye-training), Manual work, Needlework for girls, and School Drill.

Object-lessons (2 pages).—

THE SKY.

Sunrise, noon, sunset.—The children are to note with reference to the school-house or village the object over which the sun rises or sets from month to month, and to note also the sun's position at noon, and its varying height above the horizon.

Shadow.—The pupils are to notice by aid of an upright stick on a flat piece of ground the varying length of the shadow month by month.

Moon.—Note its changes. The pupils should draw the shape of the illuminated portion week by week.

Day and night.—Varying length of day and night at different seasons to be noted, and connected with the varying position of the sun as determined at rising and setting and at noon.

The Primer for this class will contain—

A.—Botany (5 pages).—

1. A broad sketch of the plant in reference to its three principal parts,—the root, the stem, and the leaf.
2. Talk about a seedling.
3. Distinction between root and stem.—Observe the germination of seed. One part grows upwards—the stem, and the other downwards—the root. If a growing plant be placed in an inverted position for some time, observe that the stem will bend and grow upwards and the root in the contrary direction. (A germinating pea placed upside down will show this.)

B.—Natural History (10 pages).—Habits and general description of the following domestic animals with anecdotes: the cow, the cat, and the dog, incidentally illustrating what is meant by herbivorous and carnivorous animals, their offensive and defensive weapons.

C.—Agriculture (10 pages) for Country schools, for boys only.—Alternative with Physics and Chemistry.

Necessaries of Life; Variety desirable as a protection against failure of crops. *Objects required*—specimens of cereals, pulses, oil-seeds, vegetables, sugar, salt, milk, fibres, straw, bamboos, timber, spices.

* As at present.

D.—Physics (5) pages for town schools, for boys only.—
The following lesson is to be in the form of conversation:—

Solid substances and some of their properties.—Take a solid, and show that it has a definite shape. This shape cannot be easily altered.

Some solids may be converted into liquids by heating, *e.g.*, wax.

Porous bodies.—Take a piece of charcoal and show the pores. Examine also a piece of unglazed pottery. Water percolates through the pores. Examine blotting paper.

Liquids and some of their properties.—As example take water. It has no shape of its own; it takes the shape of the vessel in which it is poured. It breaks into drops. It flows down. Fill a bottle full of water. Try to cork it. The water is difficult to compress.

Solids are converted into liquids by heating; liquids are converted into solids by cooling. Observe how coconut oil becomes solidified in winter.

E.—Chemistry (4 pages) for town schools, for boys only.—
Lesson on solubility:—

Take a pinch of common salt, sugar, and finely-powdered chalk respectively in a tumbler, and add the same volume of water to each and stir with a rod. Observe the appearance of the liquids: the water with the salt and sugar is perfectly clear; that containing the chalk is milky. Now pass the liquids through filter papers. Observe that the milkiness in the last has now disappeared. Taste them one by one. The water containing the salt has a brackish taste; that which was poured over the sugar has a sweetish taste, whilst that which was treated with chalk has no taste whatever. Evaporate the liquids in succession in earthenware or enamelled cups. The water evaporates off slowly, and at last we have a residue of salt and sugar; but the water which was similarly treated with chalk leaves nothing behind.

F.—Hygiene (8 pages), for boys only.—

Food.—Its necessity. Evils of under-feeding and over-feeding. Ordinary articles of food, including meat, eggs, milk, fruits.

Drink.—Pure water how obtained. Causes of impurities in water.

Air.—Necessity of pure air. Causes of its impurities. How to purify the air of dwelling-houses.

Sunlight.—Its necessity in dwelling-houses.

F(a).—Domestic Economy (8 pages), for girls only.—

Bathing.—Anointing the body before bathing. Bathing as a means of cleaning the body. Bathing of little children.

Dress.—Dress capable of improvement. Clothes to be washed and kept clean. Children's clothes to be changed frequently.

The kitchen.—Should be kept clean. Removal of refuse. Scrubbing the floor and cleaning walls and the ceiling. Admission of light and air into the kitchen.

*G.—Drawing (Hand- and Eye-training).—*Half the first part (of the four parts) of the Indian Drawing Books prepared in the School of Art:—

A set of Indian drawing copies has recently been supplied by a drawing book in four parts prepared by order of the Government of India. With some additional examples and a carefully-prepared set of instructions for teachers, the first book would be suitable for use in lower primary schools. The examples would have to be enlarged, mounted on pasteboard, and varnished. These enlarged examples would be hung in front of the class and copied by the students on their slates, so that one set would be sufficient for each school. The only expense would be the cost of one book for the teacher and one set of examples for each school. The examples would be of so simple a character that any intelligent teacher by the help of the printed instructions would be able to direct the class in the correct method of drawing them.

One page of directions regarding Drawing is to be included in the Science Primer.

*H.—Manual Training, for boys only.—*Leaf and Paper work.

Leaves (palm, &c.).—Making fans of different kinds, whistles, ornamental designs, baskets.

Paper.—Paper-folding, paper-modelling, such as caps, boats, and other toys, inkpots, pen-cases, etc., flying kites, flowers, garlands, slings, lanterns, etc., etc., envelopes.

Two pages of the Reader to contain directions about Manual Training.

H(a).—Needlework (for girls).—Top-sewing or seaming.

I.—Verses teaching the duties of children.

(Two pages at the end of the Primer.)

STANDARD II (CORRESPONDING TO PRESENT LOWER
PRIMARY STANDARD).

Age about 9 years.

Class subjects.—Reading, Writing, Arithmetic,* Object-lessons and a Primer, with Drawing (Hand- and Eye-training), Manual work, Needlework for girls and School Drill.†*

Object-lessons 2 (pages).—

THE AIR.

Winds.—The pupils should record the varying directions of the winds from season to season, or day to day, also note that some winds are warm, some cold, that some bring rain and some dry weather.

Air.—Contains moisture or water vapour shown by two classes of facts—(a) clothes left out in open air at night become damp and wet, salt becomes damp and wet during rainy season, i.e., vapour from air is turned into water, and (b) pools of water and tanks dry up in wind and sun, wet cloth becomes dry when hung in wind and sun, i.e., the water in them turns into vapour. Human breath contains vapour, and this turns to water when a cold slate is breathed upon, or on a cold morning breath becomes visible owing to water being formed from the vapour in it.

Surface of lands.—The meaning of the terms plains, valleys, hills, etc., must be explained, and the teacher should make models in clay, sand, etc., to illustrate the meaning of such terms.

The Reader for this class will contain—

A.—Botany (5 pages)—

Root of a plant.—Function of the root (1) to hold the plant; (2) to supply food. Examine different kinds of roots.

Distinguish between the main roots and rootlets—

Fibrous roots—grass.

Fleshy roots—radish, beet.

Adventitious roots—banyan.

B.—Natural History (10 pages)—

General description of the members of the cat family with anecdotes.

Mammals.—The cat, chosen as a type—external configuration—round face—arrangement and disposition of the hair—habits.

Examination of the paw: (a) under surface; the fleshy pad—the retractile claws—when excited the claws are drawn out of the protecting sheath and the hair stands on end—mode of seizing prey.

The pupil of the cat's eye: almost a vertical line in broad daylight—in the dark it expands.

The cat: its maternal instincts—attitude of the male cat towards the offspring.

The tiger: only a big cat.

C.—Agriculture (8 pages), alternative with Physics and Chemistry for village schools, for boys only—

A lesson on rice and a lesson on oilseeds.

* As at present.

† Book containing instructions in Drill to be prepared.

D.—Physics (5 pages) for boys only.—

Gases and some of their properties.—Blow into water through a tube; you see something bubbling up. Blow against your hand; you feel a current of air. Gases cannot be kept in an open-mouthed vessel. Gases are easily compressible.

Résumé of the general properties of matter (ice, water and steam).

Divisibility of matter.

Gravity.

E.—Chemistry (4 pages), for boys only.—Further lessons about solubility.

Take some lime in a bottle, fill half the bottle with water, cork it tightly, and violently agitate the contents. Allow to settle over night. Next day carefully decant off the clear liquid; note the *alkaline* nature of the water; divide it into two portions; blow into one by means of a tube of bamboo or some kind of reed. Observe how the water turns milky; the lime which was in solution has now been rendered insoluble and thus *precipitated*. Pass the milky water through a filter. The water is now colourless and devoid of taste. (Cf. Lessons on the Chemistry of a Candle.)

Treat similarly powdered alum, sulphate of copper, charcoal, sand, etc., and find out which of the above are soluble and which insoluble in water.

F.—Hygiene (8 pages), for boys only.—

Cleanliness and dress.—Bathing; its necessity. How to keep clean. How to keep the house clean. Uses of dress. Different articles used for weaving cloths.

Exercise and rest, including change of air.

Epidemics.—How to check their spread.

F(a).—Domestic Economy (8 pages), for girls.—

Cooking.—Cleanliness to be observed. Cleaning of utensils. Supply of good water for cooking food. Articles to be properly prepared and washed before cooking. Food to be prepared and kept covered as far as possible. Rice to be cooked last and eaten before it gets cold. Variety in food.

Bed-room.—Day sleep to be avoided. Regular hours of sleep. Overcrowding in rooms injurious. Use of mosquito curtains. Ventilation of rooms. Bedding of infants to be changed when soiled. Bed-clothes and pillows to be aired and sunned and washed.

*G.—Drawing (Hand- and Eye-training).—Second half of first part of the School of Art Drawing Book.***H.—Manual Training (for boys only).—Exercises in Clay modelling.*

Construction of pots, country lamps, other household articles, models of fruits and playthings.

One page of directions regarding Manual Training is to be included in the Science Primer.

*H(a).—Needlework, for girls.—Running and felling and back-stitching.**I.—Verses teaching morality and duties of children (3 pages).*

STANDARD III (CORRESPONDING TO LOWER CLASS OF UPPER PRIMARY SCHOOL)—ONE YEAR'S COURSE.

Age about 10 years.

Class subjects—Reading, Writing,† Arithmetic;‡ a Historical, Geographical and Moral Reader; a Science Primer; Drawing (Hand- and Eye-training); Practical Geometry (INSTEAD OF EUCLID); Manual work; Needlework for girls and School Drill.‡

* These Drawing Books are now in course of revision, and drawings of Indian leaves, plants and animals illustrating the lessons in agriculture, natural history, and botany are to be included in them.

† As at present.

‡ Drill book to be prepared.

In addition to the Science Primer, a Reader containing lessons in History and Geography will have to be prepared for the Upper Primary Standard, and the first-half of this book will be used in this class. This book should contain a few pieces of poetry, also some anecdotes with a moral tendency. It should not exceed 120 pages.

Object-lessons (2 pages).—

WATER.

Mist and fog—Are produced in the air and over tanks, etc., because the vapour, when cooled, changes into little drops of water.

Clouds—Are formed in the same way, but in the upper atmosphere.

Rain—Comes from these clouds, or from the vapour which has been cooled into drops of water.

Dew—Is water formed from vapour on or near the surface of the ground. The pupils should note when dew is formed, i.e., whether during cloudy or cloudless weather, etc., the difference in the amount of dew in different seasons of the year, and on what objects the dew lies thickest.

Hailstones—Are rain drops made solid by cold, and they fall usually during thunderstorms. Hailstones should be collected and examined, and allowed to melt in a glass, so that the water can be seen and tested.

Thunder and lightning—Also usually occur during storms of rain, hail, etc.

The Science Primer will contain—

A.—Botany (8 pages)—Stems and their functions—

Stems of plants—The stem grows upward, so that the plant may get as much light as it can. Green plants cannot grow without light. Observe the discolouration and unhealthy condition of grass growing when shaded from light.

Different kinds of stems—

- a.—Woody stems.
- b.—Climbing stems. Observe the twining tendrils by which the plant obtains support, e.g., cucurbita.
- c.—Succulent stems.
- d.—Underground stems, e.g., potato, turmeric, ginger, etc.

B.—Natural History (10 pages)—

Difference between a vertebrate and an invertebrate animal as illustrated by comparing the wings, legs and body of a bird with those of a butterfly.

Animals without a backbone: a snail, a cray fish, an earth-worm, a milliped, a butterfly, a leech and a cockroach compared with a fish.

The dog as compared with the cat in external appearance—the longish face—claws non-retractile—different breeds of dogs—Newfoundland, spaniel, greyhound, St. Bernard, and the uses they are put to—dogs of the cold countries furnished with a thick coating of fur.

C.—Agriculture (16 pages) for country schools, for boys only (alternative with Physics and Chemistry).—

Why crops fail.
Drought-resisting crops.
Irrigation from small depth and from great depth.

D.—Physics (10 pages) for town schools, for boys only—

Liquids.—Surface of liquid is always level. Pressure exerted by liquids in all directions. Bodies weigh less in water than in air. Floating bodies.

Gases.—Pressure exerted by the atmosphere. Invert a tumbler filled with water with the open mouth covered with a card. Observe the water is kept from falling. The syringe.

E.—Chemistry (6 pages) for town schools, for boys only—

Chemistry of a Candle.—A candle attached to a stout iron wire is lighted and gradually lowered into a wide-mouthed glass bottle: it continues to burn. Observe that the sides of the bottle begin to lose transparency and become covered over with mist. Where does the water come from? The mouth of the bottle is gradually closed with a glass or earthenware plate. The light begins to get more and more dim till it is extinguished. Pour lime-water into the bottle and shake it. The lime-water turns milky. Take some fresh lime-water in a tumbler and blow into it. The lime-water in this case also turns milky.

F—Hygiene (16 pages), for boys only—

Air.—Pure air. Cause of its impurities. Overcrowding in houses and public institutions. Means of ventilation.

Water.—Its sources of supply. Different ways in which it is rendered impure. How to secure pure water. Filters. Alcoholic and other objectionable drinks.

Food.—Why do we eat. Over-eating and under-eating. Different kinds of food, including cereals, pulses, tubers, vegetables, meat, milk and its preparation, sugar, eggs, fruits, preserved foods, condiments.

Sunlight, with special reference to its disinfecting action and necessity to health.

F.(a).—Domestic Economy (16 pages), for girls—

How to keep rooms clean.—How they become unclean. Open lamps. Spitting in rooms and on walls improper. Sitting with naked back to the wall. Cobwebs. Children not to play with dirty things in rooms.

Furnishing rooms.—Furniture and utensils to be sufficient for the requirements of the household. Everything in its place. Use of lanterns. Advantages of glass or glazed or stone vessels over metallic articles from a sanitary point of view.

The kitchen.—To be kept quite clean. Adjoining parts also to be clean. Utensils, cooking vessels, dishes to be made clean before and after use. Admission of light and air into the kitchen.

Sunlight, with special reference to its disinfecting action and necessity to health.

G.—Drawing (Hand- and Eye-training).—8 pages, explaining the lessons in the drawing book and the elementary practical geometry which is to take the place of mensuration are to be included in the Primer.

Subjects.—(1) Freehand drawing with chalk on the blackboard or a prepared wall surface. (2) Elementary practical geometry.

NOTE 1.—The value of freehand drawing on the blackboard as a means of physical and hand- and eye-training is very great, and is hardly sufficiently appreciated in most scheme adopted in Europe. The facility with which it can be put into practice in any school building which has *pukka* walls makes it especially suitable for India. The advantages of it are that the students do not sit in a stooping position, as in writing or drawing on paper. They stand upright, with the head erect and the example opposite the eye. They walk backwards and forwards occasionally to observe their work at a distance. The hand does not rest on anything, but moves freely on the wrist. This in itself gives the arm and wrist a strength and the hand a certainty of touch, which cannot be acquired by any other kind of drawing.

The difficulty regarding the provision of blackboards or other drawing surface for a large number of students in all the upper primary schools in Bengal is easily surmounted. It is obvious that any upright surface properly prepared will answer as well as or better than a blackboard. Any building which has a *pukka* wall can have a surface prepared for drawing on at comparatively small expense. Portland cement would be the best material: it resists damp and saltpetre, which destroy ordinary plaster, and it makes a surface, when properly prepared, which will last for years. The colour of the surface is the next consideration. The natural colour of Portland cement is dirty and ugly, but by mixing the cement with Indian red (a red ochre which can be obtained easily and cheaply) in the proportion of about 1 to 6 by weight, a low-toned and pleasant colour can be obtained which would not be trying to the eyes. So, instead of blackboards, a band of coloured Portland cement, about 3 feet wide running round the whole class-room, at a height of about 8 feet from the ground, would make an excellent surface for drawing on, and would be a cheerful decorative feature in the class-room. The black-coloured surface is only necessary for a teacher's work in demonstrating figures and diagrams to students who sit at some distance off. For students' drawing practice, it is neither necessary nor desirable. The next question is the drawing examples. These would be taken from the Indian School of Art drawing book alluded to before. They would be mounted on cardboard and hung from a strip of wood fastened to the wall at the upper edge of the drawing surface. The students would enlarge the examples to three or four times the size, so that the copying should not be merely mechanical.

The elementary course of practical geometry is also advocated as being of far greater educational value for students of this age than the learning of Euclid, which is almost sure to degenerate into a mere memory exercise. The instruments required are not expensive. They consist of a pair of pencil compasses, a six-inch scale, and one or two small set squares.

H.—Manual Training, for boys only.—Weaving (4 pages)—

Basket-weaving with palm-leaves.

String-weaving (knotting, netting, looping, plaiting, weaving of single loop chains of one string, sling-weaving).

H(a).—Needlework, for girls.—Cross-stitch and making kurta.

STANDARD IV (CORRESPONDING TO UPPER PRIMARY CLASS—ONE YEAR'S COURSE).

Age about 11 years.

Class subjects.—Reading, Writing,* Arithmetic,* a Historical, Geographical and Moral Reader, Science Primer, Drawing (Hand- and Eye-training), Practical Geometry and Mensuration, Manual work for boys, Needlework for girls and School Drill.†

The second-half of the Geographical, Historical and Moral Reader will be taken.

Object-lessons (3 pages)—

The action of water in nature and on the surface of the land.

Water, when it falls in the form of rain, etc., partly runs over the surface of the ground into tanks, streams, and rivers: it partly sinks into the ground to pass into wells and to reappear in the form of springs, etc., at a lower level, and it partly passes again into the air in the form of vapour.

The action of heavy rain in cutting channels in the earth or soil and in carrying away particles of light material, such as straw and wood, and of soil or earth, or even stones, into the nearest stream, and then into a larger stream or river, should be carefully watched by the pupils.

The pupils should study the nature of the nearest stream of water, determining in what part of the stream the current is most rapid, etc., and ascertaining how it carries away soil and even small stones, and how it cuts away its banks, etc.

The turbid water produced by a rapid stream should be placed in a glass tumbler, and the deposit of silt or soil found at the bottom on standing should be observed. Attention should be drawn to the fact that in this way new earth or soil has been formed in Bengal.

The pupils should be required to decide simple questions, such as—Is the ground on which the school stands level or sloping? Is the ground in the neighbourhood of the school, village or town level or sloping, the nature of the land being ascertained by watching the flow of water after rain (i.e., by the drainage)? It should be noted that the greater the slope of the land, the more rapid will be the flow of water. The action of rain and running water in modifying the surface of the land must be fully explained.

The differences in the erosion of land by running water when (a) the land surface is bare and (b) when the land is covered with grass or vegetation or by forests must be explained.

Water can be made to pass through certain soils, sand, etc., easily, but it cannot pass through clay. This can be experimentally shown.

Wells and tanks are dependent for their supply of water on the level of the water in the soil, and the depth of this from the surface depends upon the nature of the soil, rainfall, etc. Subsoil water is essential to the growth of plants.

* As at present.

† Drill book to be prepared.

The Science Primer for the class to contain—

A.—Botany (8 pages).—Lessons on leaves and flowers.

Leaves.—Function of leaves.

Different parts of a leaf—the stalk and the blade.

Make a collection and examine the different kinds of simple and compound leaves.

Some leaves are sensitive to touch, *e.g.*, the sensitive plant.

Observe the order in which leaves close when the end of a branch is touched.

Flowers.—The function of flowers is to produce seeds, which give rise to a new plant

Study of the different parts of a flower.

Count the number of sepals, petals, stamens and pistils of different kinds of flowers.

Examine pollen grains; also the pistil and the enclosed ovules.

Pollen must fall on the stigma for the maturing of the seed.

Pollination often done by insects. The brightly coloured petals serve to attract the insects.

B.—Natural History (10 pages) —

The cow and the horse compared—the cloven foot and the solid foot—other members of the cow family: the buffalo, the sheep, the goat. Stomach of a goat (a typical ruminant) examined and laid open—the four chambers—the construction of the stomach suited to the habits of the animals which chew the cud.

C.—Agriculture (16 pages) for country schools, for boys only, alternative with Physics and Chemistry—

Food and fodder-yielding trees.

Insect and fungus pests.

Oil-cakes as cattle food and manure.

D.—Physics (10 pages) for town schools, for boys only.—
Heat—

Expansion of solids, liquids and gases.

Make a simple liquid thermometer with a bottle and a tube or quill, and explain the principle of a thermometer.

Change of condition—

From solid to liquid.

„ liquid to gas.

Conduction—

Good conductors and bad conductors. Principle of warm clothing.

Convection—

Air currents and winds.

Radiation.

Boiling—

Elastic force of steam.

A simple reading lesson on the steam-engine.

E.—Chemistry (6 pages) for town schools, for boys only.—
Chemistry of a Candle, second-half:—

When air is breathed out, an invisible gas comes out which has the property of turning lime-water milky. This gas is also formed when a candle burns. Combustion to be explained and compared to respiration. The part which oxygen plays. Blow air into a charcoal fire by means of a pair of bellows. The fire becomes more and more brisk. The common practice in this country of stirring a fire by blowing air into it by means of a bamboo pipe to be referred to.

F.—Hygiene (for boys only)—16 pages.

Slightly more advanced than the matters intended for Lower Primary course—*Cleanliness to Epidemics.*

Ordinary accidents.—Burns, snake-bites, bites of rabid animals, drowning.

F (a).—Domestic Economy (for girls)—16 pages.

Cooking.—Good water to be used. Every article to be properly prepared and well cleaned and washed before putting it in the cooking pot. Cooking pots to be cleaned before use. Cooked food to be kept covered. Variety of dishes necessary.

Meals.—Time of meals. All to eat at the same time if possible. Hall for meals to be spacious and clean. Dishes and cups. Distribution of food. Economy and no waste. Simultaneous eating saves trouble and ensures economy. Evils of eating at separate times. Feeding of infants and little children. Over-feeding and under-feeding.

Bed-room.—Elevated bed necessary, especially in damp rooms. Over-crowding bad. Use of curtains. Sunning and washing bedding and clothes. Ventilation of rooms. Soiling of bedding by little children.

Ordinary accidents.—Burns, snake-bites, bites of rabid animals, drowning.

G.—Drawing (Hand- and Eye-training).—Free-hand drawing book. Practical Geometry and Mensuration (15 pages).

H.—Manual training (for boys only)—3 pages.

Bamboo works.—(Dio and knife.) Making of sticks, angling rods, paring of split bamboo for fencing purposes, cage-making, framework for plants.

H(a).—Needlework (for girls).—Cutting out a *kurta*; sewing on buttons and strings; making buttonholes; marking.

STANDARD V.—CLASS ABOVE THE UPPER PRIMARY STANDARD OR LOWER CLASS OR MIDDLE SCHOOL—ONE YEAR'S COURSE.

Age about 12 years.

Class subjects.—Reading, writing,* Arithmetic,* a Literature book (about 150 pages), Geographical and Historical Reader, including some lessons in Physical Geography (together about 150 pages).† Science Reader, Drawing (Hand- and Eye-training), Practical Geometry and Mensuration alternative with Euclid first 26 propositions of book I, Manual work, Needlework, for girls and School Drill.‡

More advanced Readers, to be prepared for the Middle School Standard in History and Geography, of which one-half would be read in this year's course.

The Science Reader for this class to contain—

A.—Botany (12 pages)—

Life history of a plant.

(1) How plants obtain their food—

A more detailed study of the functions of the root and leaf. Observe the arrangement of leaves to secure the largest area exposed to light. Transpiration.

(2) How plants store up food for future use.

(a) in the stem;

(b) in the root;

(c) in the seed for future use of the seedling.

(3) How plants protect themselves by means of thorns and other devices.

B.—Natural History (12 pages).—Teeth of certain typical animals:

Arrangement of the teeth in the upper and lower jaw respectively of the cat—the prominent *canines*—a characteristic of the carnivora—the function of the incisor—the canine and the molar teeth explained.

Dentition of a ruminant and rodent compared.

Some typical members of the rodent family, the rat, and the squirrel.

C.—Agriculture (16 pages) for country schools for boys only (alternative with Physics and Chemistry).—

Every Middle School choosing Agriculture as an alternative subject in place of Physics and Chemistry should provide itself with land sufficient for a small garden, where each boy can grow a few square yards of some crop. Each boy must also make a collection of at least five articles of agricultural interest for the school museum under the teacher's guidance. In course of time a complete local

* As at present.

† Such as Lee Warner's *Citizen of India*.
‡ Drill book to be prepared.

collection of soils, crops, manures, weeds, oils, fibres and other agricultural produce, insect and fungus pests, insecticides and fungicides, etc., may be made.

Fertility of soil. Lessons on *arabar* and *dhaincha*. How saltpetre is made. Sugarcane and sugar.

D.—Physics (10 pages) for town schools, for boys only.
Light—

Light travels in a straight line. Shadows.

Reflection of light—plane mirror. Refraction of light. Refraction through a prism.

A double convex lens—Formation of images by a double convex lens. Use of a lens as a simple microscope.

E.—Chemistry (6 pages) for town schools, for boys only.—
Metals.

General properties of the metals.—Lustre—malleability; the alloys and their mode of formation. Liability to rust.

The well-known metals—Gold, silver, copper, tin, lead, zinc, iron, and the alloys brass and *kansa*; the different uses to which they are put.

F.—Hygiene (for boys only)—20 pages.

A short chapter defining terms used, and giving some idea of the human body and the functions of nutrition and respiration.

Food.—Components of perfect food. Articles of good food, advantages of variety in foods. Food according to age and occupation.

Drink.—Water and its sources of supply.—How to secure good water. Rivers, tanks and wells how to be protected from pollution. Filters; storage of rain-water. Alcoholic and other drinks.

Air.—Carbonic acid gas. Other substances that pollute the air. Air inside and outside of houses. Air in towns, swamps, and in dry and high places. Slow poisoning by impure air. Natural purification of air how carried on. Ventilation in houses.

Construction of dwelling-houses.—Admission of air and sun light. How to keep the premises clean and dry.

F(a).—Domestic economy (for girls)—20 pages.

Feeding, bathing and cleanliness, pure air, ventilation of houses.

Management of common ailments. Colds, coughs, fevers, skin diseases, indigestion. Sick diet.

Burns and scalds, wounds and bruises.

G.—Free-hand Drawing (Hand- and Eye-training).—

G(a) Practical plane geometry, including simple practical mensuration of lines and surfaces (15 pages).

G(b) Euclid alternative with *G(a)* First 23 propositions of 1st Book.†

H.—Manual Training (for boys).—Bamboo work—3 pages.

Bamboo work.—As in the upper Primary course.

*H(a).—Needlework (for girls).—*Gathering and sewing on a band, darning and herring-boning.

STANDARD VI.—MIDDLE STANDARD—ONE YEAR'S COURSE
Age about 13 years.

Class subjects.—Reading, Writing,* Arithmetic,* a Literature book, Geographical and Historical Reader, including some lessons in Physical Geography, Science Reader, Drawing (Hand- and Eye-training), Practical Geometry and Mensuration, alternative with Euclid, Book I, Manual work for boys, Needlework for girls and School Drill.†

The second halves of the Geographical and Historical Readers to be prepared.

Science Reader to contain—

*A.—Botany (12 pages).—*Life history of a plant.

How the seeds mature—

(a) Pollination by insects. The object of bright colouring of the flower-leaves. Insects are also attracted by scent. Observe how small and inconspicuous flowers club together to become conspicuous, e.g., *compositæ*.

(b) Pollination by the wind.

(c) Water as carrier of pollen grain.

Dispersion of seeds, and the object of dispersion—

(a) Winged seeds.

(b) Seeds which are scattered by mechanical means.

(c) Seeds which are dispersed through the agency of birds and other animals.

(d) Dispersion of seed by currents of water.

* As at present.

† Drill book to be prepared.

‡ In a separate book.

B.—Natural History (12 pages).—

Development and metamorphosis of an insect, *e.g.*, a butterfly or a silkworm—the pupa and the chrysalis stage, etc.

Some typical members of the monkey family: The common monkey (*bandar*)—the *hannuman*.

The snakes: their habits—mode of progression, how the snake bites—the curved, grooved poison fang.

C — Agriculture (16 pages), for boys in country schools (alternative with Physics and Chemistry).—

Rotation of crops.

Feed and keep of cattle.

Use of bones as manure.

D.—Physics (10 pages) for town schools, for boys only.—
Electricity and Magnetism.

Two kinds of electrification. Action of electrified bodies on one another. A pith-ball electroscope.

Directive action of earth on a magnet. A simple compass needle.

Mutual action of similar and opposite poles.

Production of electric currents. Action of a current on a suspended magnetic needle.

E.—Chemistry (6 pages for town schools, for boys only).—
Elements and compounds, carbon and sulphur.

Carbon, graphite and diamond; the physical properties of each well illustrated and the economical uses to which they are applied. What happens when a piece of charcoal is burnt (*Cf.* Lesson on the Chemistry of a Candle).

Some ideas of an *element* and a *compound* incidentally conveyed. A blade of a knife previously well cleaned is dipped into a solution of a sulphate of copper: the deposit of metallic copper shown. The copper a component of sulphate of copper; in a compound the properties of the component elements are entirely changed.

A lesson on Sulphur: its physical properties, colour, brittleness, bad conducting power of heat, fusibility, insolubility in water, economic uses, etc.

F.—Hygiene for boys only (20 pages).—

Village conservancy.—Disposal of filth and sewage. How villages are rendered unhealthy.

Cleanliness.—Personal and domestic. Bathing.

Dress.—Dress materials. Dress according to weather. Washing clothes.

Exercise and rest.—Different kinds of exercise. Sleep and its hours. Absolute rest in certain cases.

Epidemics.—Precautions to be taken.

Accidents.—Burns, snake-bites, bites of rabid animals, drowning, bleeding.

F(a).—Domestic Economy for girls (20 pages).—

Management of infectious diseases, including cholera, small-pox, chicken-pox, measles.

Infection.—Disinfection of premises, bedding, clothes.

The sick room.—Duties of the sick nurse, food and drinks for the sick.

Cooking of articles of sick diet.—Necessity of absolute cleanliness in preparing food, including pure water; aerated waters, lime water.

G.—Drawing (Hand- and Eye-training).—Free-hand drawing.

G(a).—Practical plane Geometry, including simple practical Mensuration of lines and surfaces—(15 pages).

G(b).—Euclid alternative with G(a) whole of 1st Book.*

H.—Manual Training, for boys only (5 pages).—Bamboo work, woodwork.

Bamboo work.—As in the Upper Primary course.

Woodwork.—Simple sloyd work with the sloyd knife only.

H(a).—Needlework for girls.—Cutting out and making a piran; feather-stitching and ornamental marking.

* Euclid will be contained in a separate book.

APPENDIX B.

CONDENSED TABULAR SYLLABUS.

DISTRICT.	AGE 5.	AGE 6.	AGE 7.	AGE 8.	AGE 9.	AGE 10.	AGE 11.	AGE 12.	AGE 13.
	First year of infant class.	Second year of infant class.	Third year of infant class. "B" Class of Lower Primary School.	Standard I—A Class. Lower Primary School.	Standard II—Lower Primary Class.	Standard III.	Standard IV—Upper Primary Class.	Standard V.	Standard VI—Middle Vernacular Class.
1	2	3	4	5	6	7	8	9	10
I. Drawing (Hand and eye-training).	Straight, crooked, curved lines; squares, oblongs; circles.	Drawing of triangles, rectangles, pentagons, etc., tracing outlines of flat objects.	Very simple free-hand drawing, tracing of flat objects and reproduction of outline, etc.	Free-hand drawing from copies on slates; first half of 1st School of Art Book.	Free-hand drawing from copies on slates; second half of 1st School of Art Book.	Free-hand drawing ...	Free-hand drawing ...	Free-hand drawing ...	Free-hand drawing.
II. Kindergarten	Lessons through eye, hand, taste. Kindergarten occupations.	Lessons through eye, hand, taste, ear, smell lessons on measurement. Kindergarten occupations.	Further lessons through the senses, measurements, weight; lessons about the notion of time. Kindergarten occupations.	Nil	Nil	Nil	Nil	Nil	Nil.
III. Object-lessons	About school furniture, plants human body, differences of animals.	About common plants, parts of body, a cat, etc.	On birds, cow; on common metals and simple articles made from metals; on plants yielding fibre, etc.; on domestic vessels; on parts of the human body.	The sky; the subjects in science, etc., are to be treated as object-lessons.	The air; the subjects in science, etc., are to be treated as object-lessons.	Water; the subjects in science, etc., are to be treated as object-lessons.	The action of water in nature; the subjects in science, etc., are to be treated as object-lessons.	Nil	Nil.
IV. Manual training (for boys only).	Nil	Nil	Nil	Leaf manipulation, paper-cutting, and folding.	Clay modelling ...	Weaving baskets and string weaving.	Elementary bamboo work.	Bamboo work ...	Bamboo-work and wood-work.
IVa. Needle work (for girls only).	Nil	Nil	Hemming	Top-sewing or seam-ing.	Running and felling and back-stitching.	Cross-stitch and making a kurta.	Cutting out a kurta sewing on buttons and string; making button holes; marking.	Gathering and sewing on a band, darning and herring boning.	Cutting out and making a piran; feather-stitching and ornamental marking.
V. Drill (for boys only).	Simple action songs ...	Simple action songs ...	Elementary drill and gymnastics.	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics.
Va. Drill (for girls only).	Ditto ...	Ditto ...	Elementary drill and calisthenics.	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics.
VI. Writing	Commence writing numerals.	Writing of simple arithmetic; writing of letters.	Writing short words, etc., from dictation; writing sums.	Writing more complex words and sentences, etc.	Writing complex words and sentences, etc.	Writing complex words and sentences, etc.	Writing complex words and sentences, etc.	Nil	Nil.
VII. Arithmetic	Idea of number from object-lessons and Kindergarten.	Simple examples of addition, subtraction, simple multiplication tables; notation up to 100.	Examples of addition subtraction; multiplication, mental arithmetic; notation up to 10,000.	Four simple rules; mental arithmetic; notation, the whole.	Simple and compound rules, reduction, mental arithmetic, European and native systems.	Simple proportion, C. O. M., L. O. M., mental arithmetic, European and native systems.	Vulgar fractions, interest, problems, mental arithmetic, European and native systems.	Decimals, practice, interest, square root problems, with native arithmetic.	The whole.
VIII. Reading (Science Primer).	Nil	Learning letters ...	Children should be able to read simple printed language.	Standard I, Science Primer.	Standard II, Science Primer.	Standard III, Science Primer.	Standard IV, Science Primer.	Standard V, Science Primer.	Standard VI, Science Primer.
Science Primer includes the following subjects:— Botany	Nil	Nil	Nil	Simple facts about					Life history of plants.

Natural History	Nil	Nil	Nil	Habits and description of domestic animals—cow, cat, and dog.						
A. Agriculture (for country schools for boys only).	Nil	Nil	Nil	Necessaries of life. Varieties of crops.	Lesson on rice and oil-seeds.	Why crops fail, drought, irrigation.	Food and fodder—yielding trees, pests, oil-cakes.	Work in school garden; collection of specimens; also lessons on fertility, pulse crops, sugarcane and salt-petre.	Work in school garden; collections of specimens; also lessons on rotation of crops, feed and keep of cattle: use of bones.	
or										
B. Physical Science (for town schools for boys only).	Nil	Nil	Nil	Simple facts about general properties of matter.	Further discussion on properties of matter.	Pressure exerted by liquids; floating bodies; pressure of atmosphere; syringe.	Heat—and its effects, conduction, convection, radiation, boiling.	Light.—reflection, refraction.	Electricity and magnetism.	
Chemistry (for town school for boys only).	Nil	Nil	Nil	Solubility	Further experiments as to soluble and insoluble substances.	Chemistry of a candle, first half.	Chemistry of a candle, second half.	General and chemical properties of well-known metals.	Elements and compounds—carbon and sulphur.	
Hygiene for boys	Nil	Nil	Nil	Food; drink; air; light.	Cleanliness and dress; exercise and rest; epidemics.	Air; water; food; sunlight.	More advanced Lower Primary course; ordinary accidents.	Food; drink; air; dwelling-houses.	Village conservancy; cleanliness; dress; exercise and rest; epidemics; accidents.	
or										
Domestic Economy for girls.	Nil	Nil	Nil	Bathing; dress; the kitchen.	Cooking; bed-room	How to keep rooms clean; furnishing room; the kitchen; sunlight.	Cooking; meals; bed-room; ordinary accidents.	Personal hygiene; treatment of common ailments; burns, scalds, wounds and bruises.	Infectious diseases; infection; sick-room; cooking of sick diet.	
IX. Poetry or memorising short poems.*	Nil	Short pieces to be committed to memory.	Short pieces to be committed to memory.	Short pieces about duties of children to be committed to memory.	Pieces to be committed to memory.	Pieces in the Reader to be committed to memory.	Pieces in the Reader to be committed to memory.			
X. History	Nil	Nil	Nil	Nil	Nil	First part of Historical portion of Reader.	Second part of Historical portion of Reader.	First part of a more advanced Reader.†	Second part of a more advanced Reader.†	
XI. Geography	Nil	Nil	Nil	Nil	Nil	Map of school-room, house and compound; map of village; first part of Geographical portion of Reader.	Map of district in which school is situated; maps of Bengal, India, and World, with special reference to British Possessions; second part of Geographical portion of Reader.	First half of more advanced Reader.†	Second half of more advanced Reader.†	
XII. Mensuration for boys only.	Nil	Nil	Nil	Nil	Nil	Taught as practical Geometry.	Elementary practical Geometry, including simple practical Mensuration.	Practical plane Geometry, including Mensuration or First 26 propositions of the First Book of Euclid.	Practical plane Geometry, including Mensuration or First Book of Euclid.	
XIII. Literature book, including Grammar and Composition.*	Nil	Nil	Nil	Nil	Nil	Pieces contained in the Reader.	Pieces contained in the Reader.	Literature book	Literature book.	

NOTE.—A and B are alternative for boys. For girls Needle-work takes the place of Manual Training. Agriculture (or Physical Science and Chemistry), Euclid and Mensuration are also omitted for girls.
 * These should include pieces teaching morality and the duties of children.
 † Such—Sir W. Lee Warner's "Citizen of India."

APPENDIX C.

Table showing approximately the number of pages of lessons allotted to each standard.

[The Text-Books prescribed are—The Junior Teacher's Manual (5 annas), the Senior Teacher's Manual (7 annas), the Drill Book (2 annas), the Alphabet and Spelling Book (not more than one anna), Indian drawing book, 4 parts (3 annas each), Lower Primary Reader (3 annas), Upper Primary Science Primer (4 annas), Upper Primary Historical, Geographical and Moral Reader (3 annas), Middle Vernacular Science Primer (7 annas), Middle Vernacular Literature Book (4 annas), Middle Vernacular Historical and Geographical Reader (4 annas), Euclid, First book (2 annas and Arithmetic Book in two parts, the first to Lower Primary Standard, and the second part for Upper Primary and Middle Vernacular standards, prices 2 and 6 annas, respectively. The Teachers' Manuals, the Drill Book and the Drawing Books need not be purchased by pupils. They should be supplied to schools.]

SUBJECT.	APPROXIMATE NUMBER OF PAGES ALLOTTED.								
	1st year Infant class.	2nd year Infant class.	3rd year Infant class.	Standard I.	Standard II.	Standard III.	Standard IV.	Standard V.	Standard VI.
1	2	3	4	5	6	7	8	9	10
I.—Drawing (Hand and Eye-Training).	Nil* ...	Nil* ...	Nil* ...	1 page and Drawing Book No. 1 (1st half).	1 page and Drawing Book No. 1 (2nd half).	Drawing Book No. 2 (1st half).	Drawing Book No. 2 (2nd half).	Drawing Book No. 3.	Drawing Book No. 4.
II.—Kindergarten ...	Nil* ...	Nil* ...	Nil* ...	.....	.....	.....	.....	.....	.....
III.—Object Lessons ...	Nil* ...	Nil ...	Nil* ...	2 pages* ...	2 pages* ...	2 pages† ...	3 pages† ...	.....	.....
IV.—Manual Training (for boys only)	.....	.....	.....	2 pages* ...	1 page* ...	4 pages† ...	3 pages† ...	3 pages† ...	5 pages†.
or									
IVa.—Needlework (for girls only)...	.....	.....	Nil ...	Nil ...	Nil ...	Nil ...	Nil ...	Nil ...	Nil.
V.—Drill and Gymnastics (for boys only).	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil†.
or									
Va.—Drill and Calisthenics (for girls only).	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil† ...	Nil†.
VI.—Writing ...	Nil* ...	Nil* ...	Nil* ...	Nil* ...	Nil* ...	Nil† ...	Nil† ...	.....	.....
VII.—Arithmetic ...	Nil* ...	Nil* ...	Nil* ...	30 pages ...	30 pages ...	30 pages ...	30 pages ...	30 pages ...	30 pages.
VIII.—Reading of Science Primer, including:—	.....	.....	.....	.....	.....	.....	.....	.....	.....
Botany ...	.....	.....	.....	.....	.....	.....	8 pages† ...	12 pages ...	12 pages.

Natural History ...	.....	.....	.....	10 pages*	.....	10 pages†	12 pages	12 pages.
Agriculture (for country schools for boys only).	.....	.....	.....	10 pages*	.....	16 pages†	16 pages	16 pages.
or								
Physical Science (for town schools for boys only).	.....	.....	.....	[5 pages*]	[5 pages*]	[10 pages†]	[10 pages]	[10 pages.]
and								
Chemistry (for town schools for boys only).	.....	.....	.....	[4 pages*]	[4 pages*]	[6 pages†]	[6 pages]	[6 pages.]
Hygiene (for boys only) ...	.....	.....	.....	8 pages*	8 pages*	16 pages†	20 pages	20 pages.
or								
Domestic Economy (for girls only).	.....	.....	.....	[8 pages*]	[8 pages*]	[16 pages†]	[20 pages]	[20 pages.]
IX.—Poetry ...	.....	Nil*	[2 pages, included in the Alphabet Book.]	2 pages*	3 pages*	10 pages	25 pages	25 pages.
X.—History ...	.....	.....	.....	.....	.....	25 pages	50 pages	50 pages.
XI.—Geography ...	.....	.....	.....	.....	.....	25 pages	25 pages	25 pages.
XII.—Mensuration (for boys only)—								
[Number of pages of directions to be included in the Science Primers].	.....	.....	.....	.....	.....	8 pages	15 pages	15 pages or [40 pages more of Euclid.]
XIII.—Literature Book (including Grammar and Composition).	.....	.....	.....	.....	.....	.....	50 (exclusive of 25 pages of poetry)	50 (exclusive of 25 pages of poetry).
Total number of pages ...	Nil	Nil	.....	70 pages	68 pages + 70 pages (revision).	154 pages	161 pages + 154 pages (revision).	258 pages
								260 pages + 258 pages (revision),

* The Junior Teacher's Manual (a book of about 200 pages) will give directions how the subjects marked (*) are to be taught. It should be in the hands of teachers of Lower Primary Standards.

† The Drill Book (about 75 pages) should also be in the hands of the teacher only.

‡ The Senior Teacher's Manual (about 250 pages) will give directions how the subjects marked (‡) are to be taught. It will also give directions regarding school management (including keeping of registers and accounts) and discipline. It should be in the hands of teachers of the Upper Primary and Middle Vernacular Standards.

APPENDIX D.

THE TEACHERS' MANUAL FOR THE LOWER PRIMARY STANDARD (200 PAGES).

1. *Introduction*.—A short and simple statement of the principles of the Kindergarten method of training young children (10 pages).
2. The Kindergarten occupations and action songs (8 pages).
3. The requirements of the syllabus for the Infant and Lower Primary Standards of Vernacular Education (10 pages).
4. The school-room and arrangement of children (3 pages).
5. Methods of giving lessons on particular subjects; full notes of lessons containing detailed instructions as to how to give lessons on form, colour, writing, reading, arithmetic, etc., so that the pupils might thoroughly learn the subjects taught, and that at the same time their senses might be trained and their power of expression and all the faculties—physical, mental, and moral—be duly developed (162 pages).
6. Qualifications and duties of a good teacher, and his conduct towards his pupils; punctuality and discipline; corporal punishment (6 pages).

THE TEACHERS' MANUAL FOR THE UPPER PRIMARY AND MIDDLE VERNACULAR STANDARDS (250 PAGES).

1. *Introduction*.—The principles of Froebel's method, the principles underlying school education, the English Public School system, the Hindu method (20 pages).
2. The requirements of the syllabus for the Upper Primary and Middle Vernacular standards (10 pages).
3. *Class-teaching*—Instruction and education; collective instruction; attention to individuals; analysis and synthesis; oral teaching and questioning; the Socratic method; answering, proceeding from the known to the unknown, from the concrete to the abstract; the verbal, material, and pictorial illustration; the use to be made of analogy and contrast; the use of the black-board; learning by heart; repetition; home exercises; examining (30 pages).
4. Methods of teaching particular subjects, together with notes of lessons selected from text-books prescribed in science, literature, history, geography, etc. (155 pages).
5. Moral training (5 pages).
6. *Organisation*.—The organisation of a good school, time-tables, the arrangements into sections and classes, and of the standard of classification, the teaching staff, the apparatus and furniture, the register and account books, the drill and recreation, the sanitation of the school-room and school-house, etc. (10 pages).
7. The qualities necessary in a pupil; necessity of punctuality; discipline; rewards and punishment; drill as an aid to discipline (15 pages).
8. Qualifications and duties of a good teacher, and his conduct towards his pupils (5 pages).

APPENDIX E.

Statement showing the number of hours to be spent in a week on each subject in a Lower Primary School.

NAMES OF SUBJECTS.	INFANT STAGES.			Standard I.	Standard II.	REMARKS.
	Stage I.	Stage II.	Stage III.			
1	2	3	4	5	6	7
I. Drawing ...	3	3	2	2	2	One teacher aided by two, three, or four Monitors or pupil-teachers is expected to teach successfully a Lower Primary School.
II. Kindergarten ...	3	3	2	Nil	Nil	
III. Object Lessons ...	3	3	3	4	4	
IV. Manual training for boys only.	Nil	Nil	Nil	2	2	
IVa. Needlework for girls only.	Nil	Nil	(1)	(2)	(2)	
V. Drill for boys only	3	3	3	3	3	
Va. Drill for girls only						
VI. Writing ...	3	6	6	3	3	
VII. Arithmetic ...	3	3	6	6	6	
VIII. Reading (Science Primer).	...	3*	3	6	6	
IX. Poetry or memorising short poems	...	...	...	1	1
Total ...	18	24	25	27	27	

APPENDIX F.

Statement showing the number of hours to be spent in a week on each subject in an Upper Primary School.

NAMES OF SUBJECTS.	INFANT STAGES.			Standard I.	Standard II.	Standard III.	Standard IV.	REMARKS.
	Stage I.	Stage II.	Stage III.					
1	2	3	4	5	6	7	8	9
I. Drawing ...	3	3	2	2	2	2	2	Ordinarily two teachers with Monitors may be expected to teach an Upper Primary School.
II. Kindergarten ...	3	3	2	...	...	...	...
III. Object Lessons ...	3	3	3	4	4	3	3	
IV. Manual training for boys only.	...	...	...	2	2	2	2
IVa. Needlework for girls only.	...	...	(1)	(2)	(2)	(2)	(2)
V. Drill for boys ...	3	3	3	3	3	2	2	
Va. Drill for girls ...								
VI. Writing ..	3	6	6	3	3	1	1	
VII. Arithmetic ...	3	3	6	6	6	5	5	
VIII. Reading (Science Primer).	...	3	3	6	6	6	6	
IX. Poetry ...	...	...	...	1	1	1	1
X. History ...	...	...	...	...	...	2	2
XI. Geography ...	...	...	...	...	...	2	2
XII. Mensuration for boys only.	...	...	...	...	...	2	2
XIII. Literature, Grammar, and Composition.	...	...	...	...	...	2	2
Total ...	18	24	25	27	27	30	30	

APPENDIX G.

Statement showing the number of hours to be spent in a week on each subject in a Middle Vernacular School.

NAMES OF SUBJECTS.	INFANT STAGES.			Standard I.	Standard II.	Standard III.	Standard IV.	Standard V.	Standard VI.	REMARKS.
	Stage I.	Stage II.	Stage III.							
1	2	3	4	5	6	7	8	9	10	11
I. Drawing ...	3	3	2	2	2	2	2	2	2	
II. Kindergarten ...	3	3	2	...	...	...	...	...	...
III. Object Lessons ...	3	3	3	4	4	3	3	...	...
IV. Manual training for boys only.	...	...	...	2	2	2	2	2	2	
IVa. Needlework for girls only.	...	...	(1)	(2)	(2)	(2)	(2)	(2)	(2)	
V. Drill for boys ...	3	3	3	3	3	2	2	2	2	
Va. Drill for girls ...										
VI. Writing ...	3	6	6	3	3	1	1	...	...
VII. Arithmetic ...	3	3	6	6	6	5	5	5	5	
VIII. Reading (Science Reader).	...	3	3	6	6	6	6	6	6	
IX. Poetry ...	...	...	...	1	1	1	1	1	1	
X. History ...	...	...	...	...	...	2	2	2	2	
XI. Geography ...	...	...	...	...	...	2	2	2	2	
XII. Mensuration for boys only.	...	...	...	...	...	2	2	2	2	
XIII. Literature, including Grammar and Composition.	...	...	...	...	...	2	2	6	6	
Total ...	18	24	25	27	27	30	30	30	30	

FINAL REPORT OF THE COMMISSIONERS APPOINTED TO CONSIDER
MANUAL AND PRACTICAL INSTRUCTION IN PRIMARY SCHOOLS
UNDER THE BOARD OF NATIONAL EDUCATION IN IRELAND.

PART I.

General conclusions, and the grounds on which they are based.

I.—*Kindergarten*.—We are of opinion that the general principles and methods of the system known by the name of Kindergarten, which have been already introduced into some of the schools under the National Education Board, should be extended, as far as possible, to all schools attended by infant children.

II.—*Educational handwork*.—We think that Kindergarten methods and principles should be continued in Classes I, II, and III of ordinary schools in the form of Paper-folding, Cardboard-work, Wire-work, Brick-laying, clay-modelling and such like exercises. These exercises we include under the general term of *Hand- and Eye-Training* and we look upon them as of great importance for the purpose of carrying on the manual training of the children, from the Kindergarten stage to the higher grades of Manual Instruction. Further, we consider that some form of more advanced Manual instruction should be introduced, as far as possible, in the higher classes of schools for boys; and we recommend as most suitable for this purpose instruction in the principles and practice of *Woodwork*, treated educationally. The object to be aimed at is not to make the boys carpenters, but to train them in habits of accurate observation, careful measurement, and exact workmanship. Such habits we regard as of great value to all boys, whatever may be their subsequent career in life.

III.—*Drawing*.—We recommend that Drawing should be made compulsory, as far as possible, in all National Schools. The first elements of it find a place in the Kindergarten system, and it should be continued, we think, to the end of the school career. In the classes above the Kindergarten, it should be associated with *Hand- and Eye-Training*, with *Woodwork*, and to some extent also with Elementary Science, as soon as these subjects are introduced.

IV.—*Elementary science*.—We are of opinion that a simple course of Elementary Science should form a part of ordinary education in National Schools. This course should be so framed as to bring home to the mind of the children an intelligent knowledge of the common facts of nature, and the rudimentary principles of science. In the lower classes it should consist in great part of object lessons; and in the higher classes it should be illustrated by simple experiments. The pupils should be encouraged and assisted, as far as may be found practicable, to take part in the experiments. The programme for this course while following everywhere the same general lines, may with advantage be varied in its details, according to the circumstances of the locality and the character and condition of the children.

V.—*Agriculture*.—We do not think that Agriculture as an art, that is to say, practical farming, is a subject that properly belongs to elementary education. At present the study of what is called the Theory of Agriculture is compulsory for boys in all rural schools, and is highly encouraged by fees. But our inquiry has shown that this study consists for the most part in committing a text-book to memory; and we have come to the conclusion that it has little educational or practical value. We recommend instead that the course of Elementary Science to be taught in rural schools should be so framed as to illustrate the more simple scientific principles that underlie the art and industry of Agriculture. We also recommend the maintenance and extension of School Gardens as a means by which these scientific principles may be illustrated and made interesting to the pupils. On the other hand, we do not consider that the maintenance of School Farms, the object of which is to teach the art of Agriculture, properly belongs to the functions of a Board of primary education. As regards the Model Farm at Glasnevin and the Munster Dairy School, we think that they could be made more useful for the purposes of agricultural education if placed in charge of an Agricultural Department, whenever such a Department is established in Ireland.

VI.—*Cookery, Laundry work, and Domestic Science*.—We think it very desirable that Cookery, Laundry work and Domestic Science should be taught, as far as may be found practicable, in girls' schools. We cannot advise that these subjects should at present be made compulsory; but we do recommend that aid should be freely given to provide the necessary buildings and equipment for teaching them; and that managers and teachers should be encouraged to take them up by a liberal system of grants.

VII.—*Needlework*.—Needlework should continue to form, as at present, an important element in all schools for girls. The first elements of it are taught in the Kindergarten system. It should be continued in Classes I, II, and III as a part of *Hand- and Eye-Training*; and in the higher classes advanced Needlework will naturally occupy the time devoted to *Woodwork* in schools for boys.

VIII.—*Singing*.—We recommend that Singing should be brought within the reach as far as possible, of all the children attending National Schools in Ireland. It has a cultivating and refining influence, and furnishes a source of permanent enjoyment. In England and Scotland the number of children who are taught Singing in schools inspected by the State is about 99 per cent. of the number in average attendance; and we see no

reason why an equally good result should not be attained in Ireland, if equal encouragement be given. From the experience of English and Scotch schools, it seems clear the Tonic Sol-fa method of teaching is the most simple and effective. This system has been already adopted in some Irish schools; and we strongly recommend that it be extended as rapidly and widely as may be found possible.

IX.—Drill and Physical Exercises.—Various kinds of Drill and Physical Exercises are now a recognised part of primary education in England, in Scotland, and on the Continent of Europe; and we think they should be introduced into the primary schools of Ireland with the least possible delay. We are satisfied, from what we have seen and heard on this subject, that such exercises contribute largely to the health, the spirits, and the general well-being of the children. They are no additional burden on school life, but rather a pleasant form of recreation; and the children return from them to their studies with renewed energy.

It will be for the Commissioners of National Education to consider and determine in what manner these various changes can best be introduced into their system. But we have ventured to make some general suggestions on this head, which it may be well to set forth here in a summary form.

We think that the changes recommended ought to be introduced, not all at once, but gradually and tentatively. They should be tried first in the larger centres, and afterwards extended to more remote districts. It would be necessary, at the outset, to engage the services of experts from outside the present staff of the national Education Board, whose duty it would be to organise the classes and to aid the teachers with their counsel and instruction. But we have no doubt that this work, after a little time, could be taken up by the ordinary staff of the Board. Again, it is obviously important that all future teachers should be trained in the new subjects; and the programme of the Training Colleges must accordingly be framed to this end with as little delay as possible.

We have carefully considered the question by what means time may be found for the several exercises in manual and practical training which we have recommended; and we have pointed out certain modifications in the present programme of studies which may be adopted for that purpose, and which, we believe, will not interfere unfavourably with the course of instruction hitherto given in the National Schools.

Lastly, we are strongly of opinion that the system of Results Fees, depending on the individual examination of pupils at present in force in the National Schools, ought not to be applied to these subjects of Manual and Practical Instruction. While it should be always open to the Inspector to examine individual pupils, we think that the grants awarded to the teacher in these subjects should largely depend on the general evidence of his own zeal and industry, on the efficiency of his method of teaching, and on his power to arrest and hold the attention of his class.

The considerations by which we have been led to the general conclusions above set out will be fully discussed in the second part of this Report, under the several heads of Manual and Practical Instruction. But we think it will be for your Excellency's convenience that the general summary of our conclusions should be here followed by a general summary of the grounds on which they are based—

I.—First, then, there are reasons founded on educational principles. The present system, which consists largely in the study of books, is one-sided in its character, and it leaves some of the most useful faculties of the mind absolutely untrained. We think it important that children should be taught not merely to take in knowledge from books, but to observe with intelligence the material world around them; that they should be trained in habits of correct reasoning on the facts observed; and that they should, even at school, acquire some skill in the use of hand and eye to execute the conceptions of the brain. Such a training we regard as valuable to all, but especially valuable to those whose lives are to be mainly devoted to industrial arts and occupations. The great bulk of the pupils attending primary schools under the National Board will have to earn their bread by the work of their hands: it is therefore important that they should be trained from the beginning to use their hands with dexterity and intelligence.¹

II.—Next, we have the practical experience of those schools in England, Scotland, and on the continent of Europe in which such a system as we recommend has been already introduced and tested. The evidence we have received on this point is absolutely unanimous and, as we think, entirely conclusive. We have been told over and over again that the introduction of manual and practical training has contributed greatly to stimulate the intelligence of the pupils, to increase their interest in school work, and to make school life generally brighter and more pleasant. As a consequence the school attendance is improved, the children remain at school to a more advanced age, and much time is gained for the purpose of education.

¹ The general educational value of Manual Training in Primary Schools, especially for those who have to devote their lives to manual work, has been insisted on by a great number of witnesses. The following may be taken as examples:—*Mr. A. W. Bevis*, Director of Manual Training to the Birmingham School Board, vol. ii, pp. 81:4–7; *Mr. George H. Robinson*, Head Master, Board School, Birmingham, vol. ii, pp. 3584–90; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii, pp. 4167, 4220–1; *Mr. T. G. Rooper*, H. M. Inspector of Schools in England, vol. ii, pp. 5126–41; *Mr. Solomon Barter*, Organiser of Manual Instruction to the London School Board, vol. ii, pp. 4928–34; *Mr. Edmund Morris*, Instructor in Woodwork to the Barrow-in-Furness School Board, vol. ii, pp. 10448–54; *Mr. Arnold Graves*, Honorary Secretary to the Technical Education Association for Ireland, vol. iii, p. 10692; *Mr. S. M'C. Murray*, Head Master, Sciences Public School, Edinburgh, vol. iv, pp. 22199–204; *Mr. J. G. Kerr*, Head Master, Allan Glen's School Glasgow, vol. iv, pp. 23583–40.

We inquired particularly whether the literary side of school studies—reading, writing, arithmetic, grammar, and geography—had suffered any loss by the change; and the answer was uniform that no such loss had been observed. In some cases we were assured that the literary studies had been positively improved by the introduction of manual training. This result was accounted for partly by the increased intelligence of the children, partly by the constant change and variety of their occupations,—many of the most useful exercises being only a kind of organised play, and partly by their increased interest in their work.

We regard it also as a very significant testimony to the value of manual training that wherever it has been once introduced, it has, with hardly an exception, been continued and extended. There has been practically no disposition to go back to the old system, which made primary education almost exclusively literary in its character; and after an experience extending over some years, there is a general consensus of managers of schools, inspectors, and parents that the value of primary education has been greatly enhanced by the change.¹

A basis needed for Technical Education.

III.—Lastly, there is a consideration of a practical character which seems to us deserving of no little weight. A strong desire exists throughout this country, and it is growing stronger every day, for the introduction of a general system of Technical Education. It is thought that a good system of Technical Education would contribute largely towards the development of arts and industries in Ireland; and in this opinion we entirely concur. But the present system of primary education is so one-sided in its character that it leaves the pupils quite unprepared for Technical Education. The clever boys trained in the National Schools, if they are disposed to seek for a higher education, may pass with advantage into Intermediate Schools of the kind now general in Ireland; but they are not fit to enter a Technical School, even if they had such a school at their doors. Now it seems to us that the changes we recommend would go far to remedy this defect. The system of National Education, modified as we propose, would give an all-round training to the faculties of the children, and would thus lay a solid foundation for any system of higher education—literary, scientific, or technical—which might afterwards be found suitable to their talents and their circumstances.²

¹ The testimony by which the statements made in the three paragraphs of the above section are supported permeates the whole body of the evidence we have taken in England and Scotland; and it can not be adequately represented by isolated citations. Nevertheless, we think it may be well to subjoin here a few references to particular passages of the evidence which may be taken as typical examples of what we have everywhere heard.

(1) INCREASED INTELLIGENCE OF THE PUPILS.—*Mr. George H. Robinson*, Head Master, Board School, Birmingham, vol. ii, pp. 3387, 3497; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii, pp. 4402–3; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii, p. 4792; *Rev. C. D. Du Port*, H. M. Chief Inspector of Schools in England, vol. 2 ii, pp. 5418–19; *Mr. C. A. Buckmaster*, Senior Inspector of Schools under the Science and Art Department, vol. ii, p. 5589; *Mr. Alfred Percival Graves*, H. M. Inspector of Schools in England, vol. ii, pp. 6192–4; *Sir Joshua Fitch*, formerly H. M. Chief Inspector of Training Colleges in England, vol. ii, p. 6517; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii, p. 7199; *Mr. Jerome Wallace*, Teacher, Harlaw Public School, Canonbie, vol. iv, pp. 21537–8; *Mr. Robert Calder*, H. M. Inspector of Schools in Scotland, vol. iv, pp. 23599–904.

(2) GREATER INTEREST IN SCHOOL WORK, IMPROVED ATTENDANCE, AND LONGER TIME AT SCHOOL.—*Mr. George H. Robinson*, Head Master, Board School, Birmingham, vol. ii, p. 3493; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii, p. 4170; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii, pp. 4464–5; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii, pp. 4577–82; *Mr. William Oulton*, Vice-Chairman of the Liverpool School Board, vol. ii, pp. 6932–4, 7090–5; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii, pp. 7196–8, 7233, 7302–3; *Mr. A. T. Bott*, Senior Inspector of Schools to the Liverpool School Board, vol. ii, p. 7693; *Dr. J. H. Gladstone*, F.R.S., formerly Member of the London School Board, vol. ii, p. 9923.

(3) LITERARY STUDIES HAVE NOT SUFFERED.—*Mr. John Taylor*, Head Master, Board School, Birmingham, vol. ii, pp. 3695–700; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii, p. 4172; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii, p. 4471; *Mr. William Oulton*, Vice-Chairman of the Liverpool School Board, vol. ii, pp. 7059–68; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii, pp. 7199, 7267; *Mr. J. C. Pearson*, Director of Manual Instruction, Liverpool School Board, vol. ii, pp. 8079–80; *Mr. Colin G. Macrae*, Chairman of the Edinburgh School Board, vol. iv, pp. 21832–5, 21901–8; *Mr. A. E. Scougal*, H. M. Inspector of Schools in Scotland, vol. iv, pp. 22673–7; *Mr. G. W. Alexander*, Clerk to the Glasgow School Board, vol. iv, pp. 22219–32.

(4) MANUAL TRAINING ONCE INTRODUCED WAS FOUND USEFUL, TOOK ROOT AND DEVELOPED, AND BECAME POPULAR.—*Mr. A. W. Davis*, Director of Manual Training to Birmingham School Board, vol. ii, p. 3159; *Mr. John Taylor*, Head Master, Board School, Birmingham, vol. ii, pp. 3693–4, 3725–38; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii, p. 4167; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii, p. 4489; *Mr. T. G. Cooper*, H. M. Inspector of Schools in England, vol. ii, pp. 5634, 5138–45; *Rev. C. D. Du Port*, H. M. Chief Inspector of Schools in England, vol. ii, pp. 5408–16; *Mr. John Cooke*, Hon. Secretary, Sloyd Association for Great Britain and Ireland, vol. ii, pp. 5619–27; *Mrs. Homan*, Member of the London School Board, vol. ii, pp. 6357–60; *Mr. William Oulton*, Vice-Chairman of the Liverpool School Board, vol. ii, pp. 6903, 6949–58, 7019; *Mr. A. T. Bott*, Senior Inspector of Schools to the Liverpool School Board, vol. ii, pp. 7593–603; *Mr. William Nelson*, Superintendent of Manual Instruction to the Manchester School Board, vol. ii, p. 8599; *Mr. A. E. Scougal*, H. M. Inspector of Schools in Scotland, vol. iv, pp. 22576–83; *Sir James Low*, formerly Lord Provost of Dundee, vol. iv, pp. 23743–7.

(5) GENERAL EVIDENCE INCLUDING TWO OR MORE OF THE ABOVE HEADS.—*Sir Joshua Fitch*, formerly H. M. Chief Inspector of Training Colleges in England, vol. ii, pp. 6493–99, 6543–46; *Mr. Solomon Barter*, Organizer of Manual Instruction to the London School Board, vol. ii, pp. 4832–37; *Mr. Arthur Haveridge*, Superintendent of Schools to Barrow-in-Furness School Board, vol. ii, pp. 10282–95; *Mr. Colin G. Macrae*, Chairman of the Edinburgh School Board, vol. iv, pp. 21825–35, 21739–49, 21753–70; *Mr. S. M'C. Murray*, Head Master, Seionnes Public School, Edinburgh, vol. iv, pp. 22142–8, 22205–11, 22264–79; *Sir John Guthbertson*, Chairman of the Glasgow School Board, vol. iv, pp. 22995, 23109–14; *Mr. J. G. Kerr*, Head Master, Allan Glen's School, Glasgow, vol. iv, pp. 23512–23; *Mr. G. J. Torbat*, Head Master, Continuation School, Dundee, vol. iv, pp. 23963–70.

² Many witnesses in the course of their evidence have incidentally pointed out the necessity of Manual and Practical Instruction in primary schools as a basis for Technical Education. For example:—*Professor H. E. Armstrong*, City and Guilds of London Institute, vol. ii, pp. 3795–6; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii, pp. 4650–61; *Mr. Solomon Barter*, Organizer of Manual Instruction to the London School Board, vol. ii, p. 4838; *Mr. William Oulton*, Vice-Chairman of the Liverpool School Board, vol. ii, p. 6931; *Rev. Brother Thomas*, Principal, De La Salle Training College, vol. iv, p. 14277; *Rev. P. Lally*, Honorary Secretary, Galway Technical School, vol. iv, pp. 17039–42; *Mr. James Perry*, Country Surveyor of Galway, vol. iv, pp. 17291–301; *Mr. Colin G. Macrae*, Chairman of the Edinburgh School Board, vol. iv, pp. 21843–4; *Sir John Guthbertson*, Chairman of the Glasgow School Board, vol. iv, pp. 23007–9; *Sir James Low*, formerly Lord Provost of Dundee, vol. iv, pp. 23711–14; *Professor Hartley*, F.R.S., College of Science, Dublin, vol. iv, pp. 26248–51, 26323–4.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,
Offg. Secy. to the Govt. of Bengal.

No. 3126, dated Darjeeling the 8th May 1900.

From—A. PEDLER, Esq., F.R.S., Director of Public Instruction, Bengal,
To—The Secretary to the Government of Bengal, General Department.

WITH reference to the reviews and representations that have been made in connection with the revised scheme for vernacular education which was submitted by the Committee appointed by Government in Agricultural Department No. 2679, dated the 12th August 1898, to the address of the Officiating Director of Public Instruction, I have the honour to state, for the information of Government, that the former Committee was reconstituted to consider the numerous criticisms which had been collected and received both by Government and by the office of the Director of Public Instruction.

2. I have to state that there have been altogether fifteen meetings held since the 3rd of January 1900. These meetings were held weekly, each usually lasting about between two and three hours.

3. Practically each of the members constituting the Committee was present at all the meetings.

4. I have, therefore, to point out that the second report, which is herewith submitted, has involved a large amount of labour and a good deal of care and thought, and that this has been the cause of the delay in the submission of this second report.

FURTHER REPORT OF THE COMMITTEE APPOINTED TO REVISE THE SUBJECTS AND TEXT-BOOKS USED IN VERNACULAR EDUCATION IN BENGAL.

WITH reference to the reviews and representations that have been made in connection with the scheme submitted by the Committee with their report, dated the 6th April 1899, which was published in the *Calcutta Gazette* of the 5th July 1899, the Committee have the honour to submit a further report giving the results of their deliberations.

2. The representations from the public bodies that were considered by the Committee were those from the British Indian Association and the Bangiya Sahitya Parishad, one from the Chairman of the District Board of the 24-Parganas, and one from the Burdwan Teachers' Committee.

3. The newspaper criticisms that were considered appeared in the following journals:—

- (1) The *Bengalee* of the 16th and 23rd September 1899.
- (2) *Amritabazar Patrika* of the 14th and 25th August and the 7th September 1899.
- (3) The *Indian Nation* of 18th and 25th September and of the 2nd and 9th October 1899.
- (4) The *Indian Daily News* of the 26th September 1899.
- (5) The *Statesman* of the 29th September and of 1st October 1899.
- (6) The *Reis and Raiyat* of the 30th September 1899.
- (7) The *Hindu Patriot* of the 6th, 7th and 12th September 1899.
- (8) The *Indian Mirror* of 7th July, 20th August, 7th, 16th, 26th September and 26th October 1899.
- (9) *Nabyabharat* for Kārti .
- (10) *Dacca Prokas* (several articles).
- (11) *Dainik Chandrika* (ditto).
- (12) *Sanjibani* (ditto).
- (13) *Sikshak Surhid* (ditto).
- (14) *Saraswat Patra* (ditto).
- (15) *Dacca Gazette* (ditto).
- (16) *Hitabadi* (ditto).
- (17) *Education Gazette* (ditto).
- (18) *Hataishi* (ditto).
- (19) *Bangabasi* (ditto).
- (20) *Charu Mihir* (ditto).
- (21) *Som Prakash*.
- (22) *Samay* (ditto).
- (23) *Medini Bandhab*.
- (24) *Bankura Darpan*.

4. Of other popular representations, the most important was one, dated the 3rd September 1899, a lengthy document, purporting to come from the "inhabitants of Bengal," and another, dated the 29th September, signed by Babu Narendra Nath Sen as President of a public meeting held in Calcutta.

5. The Committee likewise considered objections and suggestions from certain individuals, both European and native, having experience in educational matters, whose names are too numerous to mention in this report.

Letters from Educational officers, &c.

6. They also considered a letter, dated the 15th August 1899, from Messrs. Longmans, Green and Company, Publishers, offering certain suggestions regarding the publication of text-books.

From a publishing firm.

7. The Committee also gave very careful consideration to the recent changes introduced in the Central Provinces' curriculum for vernacular schools by which the Kindergarten system has been abolished in all the rural primary schools.

Changes in the Central Provinces.

8. It should be mentioned at the outset that the criticisms, on the whole, are not by any means unfavourable. In some instances the journals criticising the scheme subsequently repudiated their own criticisms and supported the proposals of the Committee, and in others an unfavourable review winds up with recommendations substantially corresponding with the scheme originally submitted by the Committee. Some of the unfavourable criticisms were, however, sufficiently convincing to lead the Committee to make certain changes in their original scheme. Generally speaking, the unfavourable reviews are based on a misconception of the proposals. It was distinctly laid down, for instance, in the syllabus originally submitted, that Arithmetic was to be taught as at present, and that both European and native systems were to be included. Much of the criticism is, however, based on the supposition that the Committee had recommended the abolition of *zimidari* and *mahajani* accounts.

General nature of the criticisms.

9. Another mistaken conception on which some of the criticisms are based is that the proposed scheme is meant to give scientific and technical education of a character suited to the agricultural classes only. All that is intended by the Committee is to give into the hands of pupils lesson-books on subjects with which they have to do every day of their lives instead of on matters altogether foreign to their experience, and thus to help in cultivating their faculties of observation and making their education more real than it is at present. Under the proposed scheme there will be reading books in prose and poetry, as under the existing system, and it is not intended that the lessons given in the Science Primers or Readers should be either scientific or technical in character, to explain which teachers with scientific or technical training will be needed. Agricultural lessons again are not prescribed for town-schools, nor Physics and Chemistry lessons for country-schools, so that teachers should have no difficulty in giving object-lessons on the few subjects under each scientific head taught either inside or outside the school-house. The Committee consider that the books prescribed should aim, while teaching language, at teaching facts instead of fables, and facts of the kind in which children take the most interest.

Proposed scheme not technical.

10. A third objection is based on the contention that the proposed scheme aims at teaching too many subjects. Appendices A and B to this report show that the subjects intended to be taught are Reading, Writing, and Arithmetic, as before, together with Drill and Drawing. Appendix A shows the actual differences between the proposed and the existing courses, and it will be seen that the burden on students has been sensibly reduced, chiefly as regards the quantity of book-work.

Not elaborate and not altogether new.

11. This reduction of the quantity of book-work has led very many of the critics to assume that the scheme of the Committee will discourage the growth of vernacular literature; they insist again and again on the importance of literature, on the value of it in helping the development of the emotions, and the neglect of it in the proposed scheme. Middle vernacular and upper primary scholars will continue to have a literature-book, so that opponents of the scheme can only complain of the absence of literature primers for the lower primary students. The so-called literature-books now studied by lower primary scholars do not consist of poetry, drama, essay or any other kind of composition which, strictly speaking, can be classed as literature. What they teach is language, a few homely words arranged in easy constructions, and, if they teach anything else, they teach facts. This purpose will be served equally well by the proposed Science Readers, and the facts taught will be of a more useful kind. It has been said that the neglect of literature in the scheme will affect the prospects of Bengali literature. But a literature cannot be called into existence by the prospect of books being selected for the primary examinations, and Bengali literary works of the highest merit cannot be prescribed as text-books for the primary or even for the middle examinations, simply because the boys cannot understand them.

Vernacular literature not in danger.

The Committee maintain that no sound scheme of vernacular education in its elementary stages can be framed with the main view of developing literary work, but they believe that a scheme which tends to develop the intellectual faculties of pupils will indirectly lead to the growth of a healthy literature. The interests of the students and of literary progress do not depend on the quantity of text-books produced for school use. There is no doubt, the scheme of the Committee, if approved by Government, will, by reducing the quantity and bulk of text-books, affect adversely a large number of persons now interested in their production, but the Committee believe that this change will be entirely to the advantage of students and their guardians. It cannot be an objection from the pupils', or parents', or teachers'

point of view, that the books are to be made cheaper, smaller and fewer in number, but many of the critics actually condemn the scheme on these particular grounds.

Suggestions adopted.

improvements are—

- (1) A Literature Book has been prescribed for the upper primary course.
- (2) The course in Grammar for the upper primary and middle vernacular standards has been extended.
- (3) The amount of History and Geography to be taught in the upper primary and middle vernacular standards has been increased, and separate books for Geography and History recommended.
- (4) Bamboo-work and basket-weaving have been omitted from the Manual Training course, and Manual Training has been made optional. To encourage the teaching of this subject, the grants to schools may be so regulated through District Boards that they may be induced to give Manual Training (which is evidently an unpopular subject at present) a fair recognition, though marks obtained in it need not count towards scholarships. Owing to difficulties connected with the teaching of needlework, girls reading in mixed schools along with boys have been given the option of taking up manual training instead.
- (5) The extension of the Writing course up to the last (*i.e.*, the sixth) standard in the revised scheme has enabled the Committee to prescribe the writing of more vernacular documents, etc., than was originally contemplated.

13. An objection was raised that the scheme, as originally submitted by the Committee,

Introduction of English into middle schools.

might result in considerable damage being done to vernacular education by accentuating the already existing tendency on the part of parents to send their children to high schools or other English schools at the very commencement of their school-life. It was pointed out that the Muktearship examination and the entrance to the Medical and Survey schools being now barred against boys educated on the vernacular basis only, middle vernacular and primary schools were fast losing ground.

The Committee consider that the following steps should be taken to check this tendency and to give that prominence to vernacular education that it ought to obtain in the early training of the native youth of this country :—

First.—The lower classes of high schools should be assimilated to the corresponding classes of middle schools, thus giving the former a vernacular basis. English should be taught in the lower classes of all secondary schools as a second language, and not used as a medium of instruction as at present. The books used in the lower classes of the middle and high schools would then in all cases be in the vernacular, except those used for the teaching of English.

Second.—The Middle Scholarship examination should be thrown open to high schools and other English schools to which a proportion of the existing middle vernacular scholarships might be allotted or for which new scholarships might be founded.

Third.—English should be introduced as an optional subject into middle schools from Standard IV upwards.

Fourth.—Marks in English should count towards scholarships.

14. The Committee recommend that a certain elasticity should be allowed at first in the manner of teaching the proposed course. The syllabus has,

Elasticity.

no doubt, somewhat rigidly fixed the subjects in great detail, but, if any schools did not want to compete for scholarships, they might be allowed to teach as much of the proposed subjects as they chose and as well as they could. Pupils appearing for the scholarship examinations must take up all the compulsory subjects. Inspecting officers should be instructed departmentally to allow a certain amount of latitude in the teaching of the different standards by the pandits and *gurus* and in the examinations for rewards.

Amendments that could not be accepted.

15. In the following points, the Committee regret they do not see their way to altering their original scheme :—

- (1) Kindergarten principles cannot be abandoned. The Kindergarten system is universally recognised as the best for infant education, and as teaching by object-lessons is only an extension of the same system, the whole scheme of education recommended for the vernacular schools is really based upon it. It is not intended, however, that Froebel's system, which is suitable for European children and European environments, should be adopted in its entirety in the teaching of Bengali children. The Kindergarten principles only are to be recognised, and such objects chosen for illustration of lessons as can be easily procured without expenditure or at a nominal cost. The writers of the Teachers' Manuals should bear this in mind in giving directions as to the exact methods to be adopted for Bengal schools.

- (2) The introduction of the proposed system experimentally in certain localities or in certain schools only does not commend itself to the members of the Committee for these reasons :—(a) It would be against the interest of individual

pupils who might wish to get transferred from one locality or one school to another during the experimental period. (b) The Committee consider it highly probable that local influences might be brought to bear to make the trial a failure on account of the many interests involved in keeping intact the present system. (c) The Committee recommend the new system with the fullest confidence that it is better than the existing one and that even, with the present staff of teachers it is better to work on a good system than on one which has proved itself defective.

- (3) Some of the reviewers wish moral and religious teaching to be recognised more fully in the proposed course. The Committee have already advised that the poetical and historical lessons should be framed from a moral point of view, and recommended the introduction of drill and discipline as an integral part of children's education. Beyond this they feel that the introduction of any moral training which would not be objected to on religious or other grounds by one section of people or another is attended with almost insuperable difficulties. But they suggest that managers of schools might do something in this matter by allowing persons of influence and high standing, who might be willing to undertake such duties, to visit the schools occasionally and give moral advice to pupils. The Committee further observe that parents at home should recognise their duties in this matter more than they do at present, as lesson-books and schools can do little in this direction if good home influences are wanting.

16. With reference to the preparation of books required under the proposed scheme of education, the Committee consider that one of the two alternative plans suggested by Messrs. Longmans, Green and Co. may be accepted, which is, "that all books which might appear of a suitable character may be authorised for use, absolute free trade being allowed between rival series and publishers, so that the best books would be those which would get the larger sale." The Committee approve of this principle, as regards ordinary text-books, and they are of opinion that all suitable books might be authorised for use annually as at present. They consider, however, that an exception must be made in the case of the Science Primers and Teachers' Manuals. It is of the utmost importance for the successful starting of the scheme that the most competent writers should be induced to come forward at once to prepare these books, and as an inducement for them to do so, protection for three or five years should ordinarily be granted.

17. With regard to the manner of training of pandits and gurus in the new system, the Committee feel that that subject is beyond the scope of their deliberations. The system of teaching adopted in training schools will no doubt be altered as soon as the proposed scheme is sanctioned by Government; so that in two years' time some teachers trained under the new system will be available. Through the inspecting staff also a system of instruction of gurus and pandits will no doubt be organised departmentally.

18. The revised syllabus (Appendix E) with other Appendices submitted herewith, embody all the changes indicated in this report.

19. In concluding this further report, the Committee strongly recommend for favourable consideration of Government a substantial increase in the grant for primary education. It is not the opinion of the Committee that the system of education they have recommended is much more expensive than the existing system, as some of their critics maintain. The recommendation here made is of a general character, an increased grant being needed for education to be more effective, whether the existing or any other system is followed. The remuneration that pandits and gurus at present receive for the work they do is so small that it cannot possibly attract men of superior intelligence and worth. The comparisons instituted in some of the public representations between the small proportion of revenue spent on primary education in Bengal and that spent in other provinces of India and in European countries, though irrelevant to the present subject, seem to the Committee to be entitled to consideration.

ALEXANDER PEDLER	} <i>President.</i>
E. B. HAVELL	...	...
RADHIKA PRASANNA MUKHERJI	...	...
J. C. BOSE	...	...
P. C. ROY	} <i>Members of the Committee.</i>
N. G. MUKHERJI	...	...
BARADA PRASAD GHOSH	...	...
RASAMAY MITRA	...	...

CALCUTTA,

The 17th April 1900.

APPENDIX A.

A COMPARISON OF THE OLD AND THE NEW COURSES

LOWER PRIMARY EXAMINATION.

Existing Course.

Proposed Course.

1. One literature book, including a lesson in Geography. Hand-writing. Reading text-book. Reading manuscript. } (84 pages.)	1. Science Primers, Standards I and II } (69 pages). Hand-writing. Reading.
2. (a) Arithmetic—(100 pages). (b) Mental Arithmetic (European and Native).	2. Arithmetic, European and native, Mental Arithmetic (100 pages).
3. Subhankari (50 pages).	3. Drawing.
4. Hygiene (40 pages).	4. School drill.
	5. Object-lessons on the sky and air and the subjects in Science (10 pages).
	6. Manual work (optional).
Total course of reading ... 274 pages.	Total course of reading ... 179 pages.

UPPER PRIMARY EXAMINATION.

1. Bengali language and Grammar (250 pages).	1. A literature book including— (a) Prose (40 pages). (b) Poetry (20 pages). (c) Grammar (10 pages).
2. (a) History of Bengal (100 pages). (b) Geography of the four quarters (50 pages). (c) Geography of Bengal (25 pages).	2. Historical Reader (Bengal) (60 pages).
3. European Arithmetic and Native Arithmetic (100 pages).	3. Geographical Reader (40 pages).
4. Euclid, Book I, 26 propositions, and Mensuration (50 pages).	4. European and Native Arithmetic and Mental Arithmetic (100 pages).
5. (a) Elements of Physical Science (60 pages) or Agriculture (200 pages). (b) Sanitation for boys (200 pages); Domestic Economy for girls (100 pages).	5. Practical Geometry and mensuration (40 pages).
	6. Science Primers, Standards III and IV (160 pages).
	7. Freehand drawing.
	8. Drill.
	9. Object-lessons on the action of water in nature and the subjects in Science (20 pages).
	10. Manual work (optional).
Total course of reading. { Boys { 815 or Girls { 955 605	Total course of reading ... 490 pages.

MIDDLE VERNACULAR EXAMINATION.

1. Vernacular language— (a) Two text-books (163 pages). (b) Grammar (100 pages). (c) Composition (160 „).	1. A literature book including— (a) Prose (100 pages). (b) Poetry (50 pages). (c) Grammar and composition (50 pages).
2. European Arithmetic and Subhankar's rules (100 pages).	2. Arithmetic, European and native, as at present (100 pages).
3. History of India (300 pages).	3. Historical Reader (India) (120 pages).
4. Geography— (a) General, with special knowledge of Bengal and India (150 pages). (b) Physical (65 „).	4. Geographical Reader (chiefly British Empire), including Physical Geography (60 pages).
5. Euclid, Book I, including Mensuration (86 pages).	5. Euclid, Book I, (80 pages) or Practical Geometry and Mensuration (50 pages).
6. Science— (a) Physics (100 pages). (b) Hygiene (140 „).	6. Science Reader, Standards V and VI (132 pages).
	7. Freehand Drawing.
	8. Drill.
	9. Manual work (optional).
	10. English (optional) (120 pages).
Total course of reading ... 1,294 pages.	Total course of reading. { 692 or 692 } pages.

APPENDIX B.
SHORT TABULAR SYLLABUS.

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SUPPLEMENT TO THE CALCUTTA GAZETTE JANUARY 2, 1901.

SUBJECT.	AGE 5.	AGE 6.	AGE 7.	AGE 8.	AGE 9.	AGE 10.	AGE 11.	AGE 12.	AGE 13.	REMARKS.	
	First year, Infant Class.	Second year, Infant Class.	Third year, Infant Class.	Standard I.	Standard II (Lower Primary Class).	Standard III.	Standard IV (Upper Primary Class).	Standard V.	Standard VI (Middle Vernacular Class).		
1	2	3	4	5	6	7	8	9	10	11	
Reading	[Kindergarten to take the place of reading, &c.]		Alphabet and spelling book.	Science Readers. Poetry. Literature Book. History and Geography. Grammar and Composition.						The infant stage may be reduced from three to two years in the case of intelligent pupils showing satisfactory progress. In Standards II, IV and VI the subjects of Standards I, III and V respectively are to be revised. Kindergarten methods should be adopted in training children in the infant classes in all the subjects, e.g., with the help of seed, sticks, &c. No expense need be incurred in adopting such methods. The reading lessons are to be on the science of every day life for all the standards. The poetical and historical lessons are meant to inculcate moral teaching.	
Writing	Numerals up to 10 (Kindergarten).	Alphabet; writing of shatka, kara and ganda.		Words from dictation; notation up to 10,000; writing buri, pan, chok, katha, bigha, ser and man.	Writing from dictation; writing of letters to senior relatives.	Forms of pottah, kabulyats and rent-receipts.	Letters to different persons in proper form.	Chitha, simple bonds and jamakharach.	Khatian, jamabandi, mahajani khasra and rokar; chalans.		Mortgage deeds and deeds of sale.
Arithmetic	Idea of numbers [Kindergarten].	Simple addition, subtraction and multiplication (multiplication table up to 10×10).		Addition, subtraction, multiplication, saiya, deria, ariya.	First four simple rules; country-tables mankasa, serkasa, sonakasa, and masmahina.	Compound rules, bazar accounts, bighkali, kathakali, jamabandi.	G. C. M.; L. C. M.; baton mahina, hathkali, footkali, mahajani accounts.	Simple proportion; vulgar and decimal fractions; problems.	Up to interest and square root; calculation of prices and wages, &c., on the native method.		Arithmetic, the whole; checking of accounts between landlord and tenant and creditor and debtor.
Drawing	Lines	Rectilinear figures; tracing outlines of flat objects.	Simple free-hand drawing; tracing.	Free-hand drawing on slate (1st half of 1st School of Art Book).	Free-hand drawing on slate (2nd half of 1st School of Art Book).	Free-hand drawing (1st half of 2nd School of Art Book).	Free-hand drawing (2nd half of 2nd School of Art Book).	Free-hand drawing (3rd School of Art Book).	Free-hand drawing (3rd and 4th School of Art Books).		
Drill	Simple action songs		Elementary drill and gymnastics or calisthenics.	Drill and gymnastics or calisthenics.							
Needle-work for girls only, except in mixed schools, where girls may take up manual work.	Nil	Nil	Hemming	Top-sewing or seaming.	Running and felling and back-stitching.	Cross-stitching and making a kurtia.	Cutting out a kurtia; sewing on buttons and strings; making button-holes; marking.	Gathering and sewing on a band; darning and herring-boning.	Cutting out and making a piran; feather stitching, and ornamental marking.		
Optional { Manual Training ...	Kindergarten occupation.		Seed-placing and stick-laying.	Leaf manipulation and paper folding.	Leaf manipulation and paper cutting.	Bead-threading and string-weaving.	Clay-modelling ...	Clay-modelling ...	Clay-modelling.		
	English	Nil	Nil	Nil	Nil	Nil	English primer.	English reader.	Middle English course; elementary English grammar, composition and translation.		

Optional.

APPENDIX C.

Detailed Tabular Syllabus.

APPENDIX C.

DETAILED TABULAR SYLLABUS.

SUBJECT.	AGE 5.	AGE 6.	AGE 7.	AGE 8.	AGE 9.	AGE 10.	AGE 11.	AGE 12.	AGE 13.
	First year of infant class.	Second year of infant class.	Third year of infant class. "B" class of Lower Primary School.	Standard I = A Class, Lower Primary School.	Standard II = Lower Primary Class.	Standard III.	Standard IV = Upper Primary Class.	Standard V.	Standard VI = Middle Vernacular Class.
1	2	3	4	5	6	7	8	9	10
I. Drawing (Hand- and eye-training).	Straight, crooked, curved lines; squares, oblongs; circles.	Drawing of triangles, quadrilaterals, pentagon, etc. Tracing outlines of flat objects.	Very simple free-hand drawing, tracing of flat objects and reproduction of outline, etc.	Free-hand drawing from copies on slates; first half of 1st School of Art Book.	Free-hand drawing from copies on slates; second half of 1st School of Art Book.	Free-hand drawing ...	Free-hand drawing ...	Free-hand drawing ...	Free-hand drawing.
II. Kindergarten ...	Lessons through eye, hand, taste. Kindergarten occupations.	Lessons through eye, hand, taste, ear, smell; lessons on measurement. Kindergarten occupations.	Further lessons through the senses, measurements, weight; lessons about the notion of time. Kindergarten occupations.	Nil	Nil	Nil	Nil	Nil	Nil.
III. Object lessons ...	About school furniture, plants, human body, differences of animals.	About common objects and plants, parts of body, a cat, etc.	On birds, the cow; on common metals and simple articles made from metals; on plants yielding fibre, etc.; on domestic vessels; on parts of the human body.	The sky; the subjects in science, etc., are to be treated as object-lessons.	The air, etc.; the subjects in science, etc., are to be treated as object-lessons.	Water; the subjects in science, etc., are to be treated as object-lessons.	The action of water in nature; the subjects in science, etc., are to be treated as object-lessons.	Nil	Nil.
IV. Manual training optional for boys only, or for boys and girls in mixed schools.	Nil	Nil	Seed-placing and stick-laying.	Leaf manipulation and paper folding.	Leaf manipulation and paper-cutting.	Bead treading and string weaving.	Clay modelling ...	Clay modelling ...	Clay modelling.
IVa. Needle-work (for girls only except in mixed schools where girls may take up manual work).	Nil	Nil	Hemming	Top-sewing or seaming.	Running and felling and back-stitching.	Cross-stitch and making a kurti.	Cutting out a kurti, sewing on buttons and string; making button-holes; marking.	Gathering and sewing on a band, darning and herring-boning.	Cutting out and making a piran; feather-stitching and ornamental marking.
V. Drill (for boys only).	Simple action songs ...	Simple action songs ...	Elementary drill and gymnastics.	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics	Drill and gymnastics.
Va. Drill (for girls only).	Ditto ...	Ditto ...	Elementary drill and calisthenics.	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics	Drill and calisthenics.
VI. Writing ...	Commence writing numerals.	Writing of letters of the alphabet and simple words; writing of satuka, kara and ganda.	Writing short words, etc., from dictation; writing sums; writing of buri, pān, chok, katha, bigha, ser and mān.	Writing more complex words and sentences, and letters to senior relatives.	Writing complex words and sentences, and forms of pottah, kabuliya and rent receipts.	Writing letters to different persons in proper forms.	Writing of chitha, simple bond, and jamakharach.	Writing of khastian, jamabandi, mahajani khasra and rokar, chalaus.	Mortgage deeds and deeds of sale.
VII. Arithmetic ...	Idea of number from object-lessons and Kindergarten.	Simple examples of addition, subtraction, simple multiplication tables; notation up to 100.	Examples of addition, subtraction, multiplication, mental arithmetic; notation up to 10,000, sailya, deriya and araiya.	Four simple rules; mental arithmetic; notation, the whole, country-tables, man-kasa, serkasa, sonakasa, masmahina.	Simple and compound rules; reductions; mental arithmetic; Bazar accounts, bighakali, kathakali and jamabandi.	G. C. M.; L. C. M.; mental arithmetic; batsarmahina, hatkai, footkai, mahajani.	Simple proportion; vulgar and decimal fractions; problems.	Interest; square root; problems, calculations of prices; wages, &c., on native method.	The whole; checking of accounts between landlord and tenant and creditor and debtor.
VIII. Reading ...	Nil	Learning letters ...	Reading simple, printed and written language.	Standard I, Science Primer.	Standard II, Science Primer.	Standard III, Science Primer.	Standard IV, Science Primer.	Standard V, Science Reader.	Standard VI, Science Reader.
Science Primer includes the following subjects:— Botany ...	Nil	Nil	Nil ...					Life-history of plants	Life-history of plants continued.

APPENDIX D.

Table showing approximately the number of pages of lessons allotted to each Standard and the prices of the books.

NOTE.—The numbers of pages included within brackets, referring to alternative or optional subjects, have not been counted in the totals.

[The Text-books prescribed are—The Junior Teacher's Manual (not more than 8 annas), the Senior Teacher's Manual (not more than 10 annas), the Drill Book (2 annas), the Alphabet and Spelling Book (not more than one anna), Indian Drawing Book, 4 parts (3 annas each), Lower Primary Reader (3 annas), Upper Primary Science Primer (4 annas), Upper Primary Literature Book, and Historical and Geographical Readers (3 annas each), Middle Vernacular Science Primer (7 annas), Middle Vernacular Literature Book (6 annas), Middle Vernacular Historical and Geographical Readers (4 annas each), Euclid, First Book (2 annas), and Arithmetic Book in two parts, the first for Lower Primary Standard, and the second part for Upper Primary and Middle Vernacular Standards, prices 4 and 8 annas, respectively. The Teachers' Manuals, the Drill Book and the Drawing Books need not be purchased by pupils. They should be supplied to schools.]

SUBJECT.	APPROXIMATE NUMBER OF PAGES ALLOTTED.											
	1st year, Infant class.		2nd year, Infant class.		3rd year, Infant class.		Standard I.	Standard II.	Standard III.	Standard IV.	Standard V.	Standard VI.
1	2		3		4		5	6	7	8	9	10
I.—Drawing (Hand and Eye-Training).	Nil*	...	Nil*	...	Nil*	...	1 page and Drawing Book, No. 1 (1st half).	1 page and Drawing Book, No. 1 (2nd half).	Drawing Book, No. 2 (1st half).	Drawing Book, No. 2 (2nd half).	Drawing Book, No. 3.	Drawing Book, No. 4.
II.—Kindergarten ...	Nil*	...	Nil*	...	Nil*	...	...	...	...	...	...	...
III.—Object Lessons ...	Nil*	...	Nil	...	Nil*	...	5 pages*	5 pages*	10 pages†	10 pages†	...	...
IV.—Manual Training (for boys optional).	...	...	...	...	...	...	[2 pages*]	[1 page*]	[4 pages†]	[3 pages†]	[3 pages†]	[5 pages †]
IVa.—Needle-work (for girls only) ...	...	...	...	Nil	...	Nil	...	Nil	...	Nil	...	Nil.
Ill and Gymnastics (for boys only).	Nil†	...	Nil†	...	Nil†	...	Nil†	Nil†	...	Nil†	...	Nil.†
or												
and Calisthenics (for girls).	Nil†	...	Nil†	...	Nil†	...	Nil†	Nil†	...	Nil†	...	Nil.†
ating* ...	Nil*	...	Nil*	...	Nil*	...	Nil*	Nil*	...	Nil†	...	Nil.†
VII.—Arithmetic ...	Nil*	...	Nil*	...	Nil*	...	40 pages	60 pages	50 pages	50 pages	50 pages	50 pages.
VIII.—Science Primer, including— ...	...	Nil*	...	Nil*	...	Nil*	...	...	...	...	...	...

Natural History	....	....	....	....	....	....	....	....	12 pages	...	12 pages.			
Agriculture (for country schools for boys only).	....	....	....	....	....	....	....	....	20 pages	...	24 pages.			
or																	
Physical Science (for town schools for boys only),	....	....	....	[5 pages*]	...	[5 pages*]	...	[10 pages†]	...	[10 pages†]	...	[10 pages.]		
and																	
Chemistry (for town schools for boys only).	...	....	....	[4 pages*]	...	[4 pages*]	...	[6 pages†]	...	[6 pages†]	...	[6 pages.]		
Hygiene (for boys only)	...	....	....	8 pages*	...	8 pages*	...	16 pages†	...	16 pages†	...	20 pages	...	20 pages.
or																	
Domestic Economy (for girls only).	....	....	....	[8 pages*]	...	[8 pages*]	...	[16 pages†]	...	[16 pages†]	...	[20 pages]	...	[20 pages.]
IX.—Poetry (included in Readers up to Standard II and in Literature Books in Standards III—VI).	Nil*	...	[2 pages, included in the Alphabet Book.]	2 pages*	...	3 pages*	...	10 pages	...	10 pages	...	25 pages	...	25 pages.		
X.—History	...	....	....	....	....	....	....	30 pages	...	30 pages	...	60 pages	...	60 pages.
XI.—Geography	...	....	....	....	....	....	....	20 pages	...	20 pages	...	30 pages	...	30 pages.
XII.—Mensuration (for boys only)—																	
[Number of pages of directions to be included in the Science Primers.]	....	...	....	....	....	....	....	20 pages	...	20 pages	...	25 pages or [40 pages of Euclid.]	...	25 pages or [40 pages more of Euclid.]
XIII.—Literature Book including Grammar and Composition).	....	....	....	....	....	....	....	20 pages	...	30 pages	...	50 (exclusive of 25 pages of poetry).	...	50 (exclusive of 25 pages of poetry).
XIV.—English (including Elements of Grammar and Composition).	....	....	....	....	....	....	....	....	...	[40 pages]	...	[60 pages]	...	[60 pages.]
Total number of pages	Nil	...	Nil	...	25 pages	...	80 pages	...	100 pages + 80 pages (revision).	...	210 pages	...	220 pages + 210 pages (revision).	...	304 pages	...	308 pages + 304 pages (revision).

* The Junior Teacher's Manual (a book of about 200 pages) will give directions how the subject marked (*) are to be taught. It should be in the hands of teachers of Lower Primary Standard.

† The Drill Book (about 75 pages) should also be in the hands of the teacher only.

‡ The Senior Teacher's Manual (about 250 pages) will give directions how the subject marked (‡) are to be taught. It will also give directions regarding school managements (including keeping of registers and account) and discipline. It should be in the hands of teachers of the Upper Primary and Middle Vernacular Standards.

APPENDIX E.

THE DETAILED SYLLABUS.

NOTE.—It is of the utmost importance that all objects which are to be used to illustrate the courses of instruction in vernacular schools should be selected from materials or things that are commonly found in every school, or which can be obtained in every village without difficulty and without cost. This rule applies to object which are to be used for the training of the senses in the infant classes and for object-lessons, etc., and also as far as possible to those to be used in the teaching of the science of every-day life.

INFANT CLASS.

The following "Kindergarten" and "Object-lesson" subjects shall be prescribed for the first stage of instruction before the children are allowed to begin to learn their letters or to learn to read, etc.:—

FIRST PERIOD OF INFANT CLASS—ONE YEAR'S COURSE.

Age about five years.

A.—Kindergarten and Object-lessons for training children by observation or impressions obtained through the senses—

1. Through the eye—

(a) Lessons on form—

Curved lines.

Lines, straight and crooked.

Ball-shaped bodies.

(b) Lessons on colour—

Black and white substances.

Yellow and red ditto.

Blue and green ditto.

2. Through the hand—

Things, hard and soft.

" rough and smooth.

" heavy and light.

" brittle and tough.

3. Through the sense of taste—

Things, sweet and sour.

" pungent or hot, sour, salt, and bitter.

B.—Object-lessons on things of every-day life, such as a flat board or a piece of wood, a box, a stool or chair, a table or school desk; also very simple object-lessons about plants, growing and flowering, indicating the root, the stem, the leaves, the flowers, etc., and their simple uses, and showing that a plant must be watered for it to continue to live.

Very simple lessons about the human body—

Parts of the body—the head, arms, legs, hands and feet.

What the body is made of (bones and flesh).

C.—Training of hand and eye—

Drawing of curved, straight and crooked lines.

Drawing of squares and oblongs, circles and figures like circles bounded by curved lines.

D.—Very simple lessons as to different kinds of animals—

Some animals walk only.

Ditto have 2, 4 and more legs.

Ditto crawl.

Ditto fly.

Ditto swim.

Ditto walk and fly.

Ditto walk and swim.

Necessity of kindness to domestic animals.

Kindness of children to one another.

E.—From the object-lessons on the leaves of trees and on the hands and feet, etc., the idea of numbers can be readily introduced, and from numbers to addition, subtraction, and simple mental arithmetic.

F.—The children are to be allowed to learn to write the numerals about this stage.

G.—The children must be trained daily in simple physical exercises and in action songs.

H.—Kindergarten occupation such as stick-lying, etc.

SECOND PERIOD OF INFANT CLASS—ONE YEAR'S COURSE.

Age about 6 years.

A.—Training through the senses—

1. Through the eye—

(a) Lessons on form—

Extension of lessons given in first period.

Also lessons on angles and on triangles of various shapes.

Also lessons on cube and brick-shaped bodies.

(b) Lessons on colour.

Extension of lessons given in first period.

Grey, orange, purple, brown.

2. Through the hand—

Extension of lessons given in first period showing various degrees of the properties then tested.

3. Through the sense of taste—

Extension of lessons given in first period.

4. Through the ear—

Sounds, loud and soft.

„ distant and near.

„ pleasant and unpleasant.

Different animals give different sounds.

Sounds of pain, sounds of pleasure.

Sounds give spoken language.

5. Through the organs of smell—

Pure air has no smell.

Air which has smell is not pure.

Sweet or pleasant smells of flowers.

Unpleasant smell of rotting or decaying vegetation.

Unpleasant smell of rotting or decaying animal matter.

Air with bad smell is unhealthy to breathe.

6. Lessons on size and measurement—

Length, breadth and thickness.

Measures of length, both vernacular measures, and the yard, foot and inch.

B.—The following object-lessons on common things :—

1. On a stool or chair.

2. „ a slate and pencil.

3. „ a book.

4. „ a tree and its fruits.

5. „ a mango and plantain.

6. „ seeds.

7. „ grass.

8. „ a plant yielding fibres which the children can extract.

9. „ the parts of the human body in greater detail than in the first period.

10. „ a cat.

C.—The hand and eye should be again trained by simple drawing exercises of the same character as those in the first period, but rather more advanced, with the drawing of triangles, quadrilaterals, pentagons, etc., in addition.

Tracing outlines of leaves of plants of various shapes and of other flat bodies on slates. Leaves of plants may be pressed between sheets of paper (old newspaper) to make them lie quite flat.

After tracing a leaf or other flat object on the slate, the pupil should be required to make a freehand copy of his own diagram by the side of it, and compare it and correct it by placing the original object over it. This would help to train the eye and would fix the form of the object more clearly in the memory than simple tracing would do.

D.—At this period the children are to begin to learn their letters, etc., and to write the letters of the alphabet and to form short words. Also writing *shatiká*, *kará* and *gandá*.

E.—Additional arithmetical exercises; notation up to 100; multiplication table up to 10×10 ; simple addition, subtraction and multiplication. Slates may be used for the simple arithmetic.

F.—Short pieces of poetry should be committed to memory. Some of these should teach morality and the duties of children.

G.—Simple physical exercises and action songs.

H.—Kindergarten occupations such as stick-laying, seed-placing, etc.

THIRD PERIOD OF INFANT CLASS—ONE YEAR'S COURSE* (EQUAL TO STANDARD B OF PRESENT PRIMARY COURSE).

Age about 7 years.

A.—Training through the senses—

1. Through the eye—

(a) Lessons on form should include the notions of perpendicular, horizontal, oblique, parallel lines, the circle, sphere, cylinder, prisms, pyramid, and cone.

(b) Lessons on colour should deal with dark and light colours, and with the varying shades of such colours as red, blue, green, yellow, etc. Primary and secondary colours, browns, greys, etc.

(c) Lessons on the four cardinal points.

2. Determination of weights and measures with the use of bazar scales and measures. Short weights and measures used for cheating.

3. Elementary notions about time should be given (indigenous and European), to include the year, month, week, day, hour, and minute, also division of the year into seasons.

B.—Object lessons—

3. Further lessons about plants—

Seeds to be sown and grown to form plants.

Object-lessons on plants, such as pumpkin, and on vegetables, such as brinjal, beans, etc., for food.

4. Further lessons about the human body—

The blood, the brain, the skin.

5. Object-lessons about birds (pigeon, duck). Simple lessons about the cow.

6. Object-lessons on vessels—

An earthen pot.

A water-glass or a bottle.

A brass *lotah* or a brass plate (*thala*).

7. Object-lessons on common metals.

„ on coins, copper and silver.

„ on nails, screws.

„ on a knife.

„ on a key for a lock.

* Double promotion may be given to intelligent pupils at the infant stage where the work of three years can be satisfactorily done in two.

8. Object-lessons about plants yielding fibres, more advanced than in the previous stage.

The use of various fibres in the manufacture of cloth for clothing.

C.—Drawing (Hand and Eye-training)—

Drawing on slates, of rather more advanced character than in the two previous stages.

Drawing outlines of leaves, etc., from memory must be practised.

D.—Arithmetic and writing.—

Addition, subtraction and multiplication; notation up to 10,000; *shāyā*, *derā* and *ariyā*; writing *buri*, *pan*, *chok*, *kāthā*, *bighā*, *ser* and *mān*. Writing short words, etc., from dictation.

E.—Verses on the duties of children should be committed to memory and recited. The reading of simple printed and written language should be commenced.

F.—School Drill.

G.—Needlework (*for girls only*).—Hemming.

H.—Kindergarten occupations such as stick-laying, seed-work, etc.

STANDARD I—ONE YEAR'S COURSE (CORRESPONDING TO THE "A" CLASS OF A LOWER PRIMARY SCHOOL).

Age about 8 years.

Class subjects.—Reading, Writing, Arithmetic, Object-lessons and a Primer, with Drawing (Hand and Eye-training), Manual work, Needlework for girls and School Drill.

Writing.—To write from dictation; to write more complex words and sentences, and an ordinary letter to a senior relative.

Arithmetic.—First four simple rules, including mental operations; country tables of money, weights, measure and land measure; *mankasā*, *serkasā*, *sonākasā*, *māsmāhinā*.

Object-lessons (5 pages)—

THE SKY.

Sunrise, noon, sunset.—The children are to note with reference to the school-house or village the object over which the sunrises or sets from month to month; and to note also the sun's position at noon, and its varying height above the horizon.

Shadow.—The pupils are to notice by aid of an upright stick on a flat piece of ground the varying length of the shadow month by month.

Moon.—Note its changes. The pupils should draw the shape of illuminated portion week by week.

Day and night.—Varying length of day and night at different seasons to be noted, and connected with the varying position of the sun as determined at rising and setting and at noon.

The Primer for the class will contain—

A.—*Botany (5 pages)*—

1. A broad sketch of the plant in reference to its three principal parts,—the root, the stem, and the leaf.

2. Talk about a seedling.

3. Distinction between root and stem.—Observe the germination of seed. One part grows upwards—the stem, and the other downwards—the root. If a growing plant be placed in an inverted position for some time, observe that the stem will bend and grow upwards and the root in the contrary direction. (A germinating pea placed upside down will show this.)

B.—*Natural History (10 pages)*.—Habits and general description of the following domestic animals with anecdotes: the cow, the cat and the dog, incidentally illustrating what is meant by herbivorous and carnivorous animals, their offensive and defensive weapons.

C.—*Agriculture (10 pages)* for Country schools for boys only.—Alternative with Physics and Chemistry.

Necessaries of Life—variety desirable as a protection against failure of crops. *Objects required*—specimens of cereals, pulses, oil-seeds, vegetables, sugar, salt, milk, fibres, straw, bamboos, timber, spices.

D.—Physics (5 pages) for town schools, for boys only—

The following lesson is to be in the form of conversation:—

Solid substances and some of their properties—Take a solid, and show that it has a definite shape. This shape cannot be easily altered.

Some solids may be converted into liquids by heating, e.g., wax.

Porous bodies.—Take a piece of charcoal and show the pores. Examine also a piece of unglazed pottery. Water percolates through the pores. Examine blotting paper.

Liquids and some of their properties.—As example take water. It has no shape of its own; it takes the shape of the vessel in which it is poured. It breaks into drops. It flows down. Fill a bottle full of water. Try to cork it. The water is difficult to compress.

Solids are converted into liquids by heating; liquids are converted into solids by cooling. Observe how cocoanut oil becomes solidified in winter.

E.—Chemistry (4 pages) for town schools, for boys only.—

Lesson on solubility:—

Take a pinch of common salt, sugar, and finely-powdered chalk respectively in a tumbler and add the same volume of water to each and stir with a rod. Observe the appearance of the liquids; the water with the salt and sugar is perfectly clear; that containing the chalk is milky. Now pass the liquids through filter papers. Observe that the milkiness in the last has now disappeared. Taste them one by one. The water containing the salt has a brackish taste, that which was poured over the sugar has a sweetish state, whilst that which was treated with chalk has no taste whatever. Evaporate the liquids in succession in earthenware or enamelled cups. The water evaporates off slowly, and at last, we have residue of salt and sugar; but the water which was similarly treated with chalk leaves *nothing* behind.

F.—Hygiene (8 pages), for boys only—

Food.—Its necessity. Evils of under-feeding and over-feeding. Ordinary articles of food, including meat, eggs, milk, fruits.

Drink.—Pure water how obtained. Causes of impurities in water.

Air.—Necessity of pure air. Causes of its impurities. How to purify the air of dwelling-houses.

Sunlight.—Its necessity in dwelling-houses.

F (a).—Domestic economy (8 pages), for girls only—

Bathing.—Anointing the body before bathing. Bathing as a means of cleaning the body. Bathing of little children.

Dress.—Dress capable of improvement. Clothes to be washed and kept clean. Children's clothes to be changed frequently.

The kitchen.—Should be kept clean. Removal of refuse. Scrubbing the floor and cleaning walls and the ceiling. Admission of light and air into the kitchen.

*G.—Drawing. (Hand and Eye-training).—*Half the first part (of the four parts) of the Indian Drawing Books prepared in the School of Art.

A set of Indian drawing copies has recently been supplied by a drawing book in four parts prepared by order of the Government of India. With some additional examples and a carefully-prepared set of instructions for teachers, the first book would be suitable for use in lower primary schools. The examples would have to be enlarged, mounted on pasteboard, and varnished. These enlarged examples would be hung in front of the class, and copied by the students on their slates, so that one set would be sufficient for each school. The only expense would be the cost of one book for the teacher and one set of examples for each school. The examples would be of so simple a character that any intelligent teacher by the help of the printed instructions would be able to direct the class in the correct method of drawing them.

One page of directions regarding Drawing is to be included in the Science Primer.

*H.—Manual Training (optional, except in mixed schools where girls may have to take up this subject in place of needle-work).—*Leaf and Paper work.

Leaves (palm, etc.).—Making fans of different kinds, whistles, ornamental designs.

Paper.—Paper-folding, paper-modelling, such as caps, boats, and other toys, ink-pots, pen-cases, etc., flying kites, flowers, garlands, slings, lanterns, envelopes, etc., etc.

Two pages of the Reader to contain directions about Manual Training.

- H (a).—Needlework (for girls).—*Top-sewing or seaming.
*I.—*Verses teaching the duties of children.
 (Two pages at the end of the Primer.)
*J.—*School drill.

STANDARD II (CORRESPONDING TO PRESENT LOWER

PRIMARY STANDARD).

Age about 9 years.

Class subjects.—Reading, Writing, Arithmetic, Object-lessons and a Primer, with Drawing (Hand and Eye-training), Manual work, Needlework for girls, and School Drill.

Writing.—Revision of subjects of Standard I; writing out forms of *pottahs*, *kabuliyats*, rent-receipts.

Arithmetic.—Revision of subjects of Standard I and compound rules; accounts of bazar purchases, calculation of prices, including mental operations; *bighakali*, *kathakali*, *jamabandi*.

Object lessons (5 pages).—

THE AIR.

Winds.—The pupils should record the varying directions of the winds from season to season, or day to day, also note that some winds are warm, some cold, that some bring rain and some dry weather.

Air.—Contains moisture or water vapour shown by two classes of facts—(a) clothes left out in open air at night become damp and wet, salt becomes damp and wet during rainy season, *i.e.*, vapour from air is turned into water, and (b) pools of water and tanks dry up in wind and sun, wet cloth becomes dry when hung in wind and sun, *i.e.*, the water in them turns into vapour. Human breath contains vapour, and this turns to water when a cold slate is breathed upon, or on a cold morning breath becomes visible owing to water being formed from the vapour in it.

Surface of lands.—The meaning of the terms plains, valleys, hills, etc., must be explained, and the teacher should make models in clay, sands, etc., to illustrate the meaning of such terms.

The Reader for this class will contain—

A.—Botany (5 pages).—

Root of a plant.—Function of the root (1) to hold the plant; (2) to supply food. Examine different kinds of roots.

Distinguish between the main roots and rootlets—

Fibrous roots—grass.
 Fleshy roots—radish, beet.
 Adventitious roots—banyan.

B.—Natural History (10 pages).—

General description of the members of the cat family with anecdotes.

Mammals.—The cat chosen as a type—external configuration—round face—arrangement and disposition of the hair—habits.

Examination of the paw; (a) under surface; the fleshy pad—the retractile claws—when excited the claws are drawn out of the protecting sheath and the hair stands on end—mode of seizing prey.

The pupil of the cat's eye: almost a vertical line in broad daylight—in the dark it expands.

The cat: its maternal instincts—attitude of the male cat towards the offspring.

The tiger: only a big cat.

C.—Agriculture (8 pages), alternative with Physics and Chemistry for village schools, for boys only—

A lesson on rice and a lesson on oilseeds.

D.—Physics—(5 pages), for boys only—

Gases and some of their properties.—Blow into water through a tube; you see something bubbling up. Blow against your hand; you feel a current of air. Gases cannot be kept in an open-mouthed vessel. Gases are easily compressible.

Resumé of the general properties of matter (ice, water and steam).

Divisibility of matter.

Gravity.

E.—Chemistry (4 pages), for boys only.—Further lessons about solubility.

Take some lime in a bottle, fill half the bottle with water, cork it tightly, and violently agitate the contents. Allow to settle over night. Next day carefully decant off the clear liquid; note the *alkaline* nature of the water: divide it into two portions; blow into one by means of a tube or bamboo or some kind of reed. Observe how the water turns milky; the lime which was in solution has now been rendered insoluble and thus *precipitated*. Pass the milky water through a filter. The water is now colourless and devoid of taste. (*Cf. Lessons on the Chemistry of a Candle.*)

Treat similarly powdered alum, sulphate of copper, charcoal, sand, etc., and find out which of the above are soluble and which insoluble in water.

F.—Hygiene (8 pages), for boys only—

Cleanliness and dress.—Bathing: its necessity. How to keep clean. How to keep the house clean. Uses of dress. Different articles used for weaving cloths.

Exercise and rest, including change of air.

Epidemics.—How to check their spread.

F(a).—Domestic Economy (8 pages), for girls—

Cooking.—Cleanliness to be observed. Cleaning of utensils. Supply of good water for cooking food. Articles to be properly prepared and washed before cooking. Food to be prepared and kept covered as far as possible. Rice to be cooked last and eaten before it gets cold. Variety in food.

Bed-room.—Day sleep to be avoided. Regular hours of sleep. Overcrowding in rooms injurious. Use of mosquito curtains. Ventilation of rooms. Bedding of infants to be changed when soiled. Bed-clothes and pillows to be aired, and sunned and washed.

G.—Drawing (Hand and Eye-training).—Second half of first part of the School of Art Drawing Book.*

H.—Manual Training (optional, except in mixed schools where girls may have to take up this subject in place of needlework) (for boys only).—More difficult exercises in leaf manipulation and paper-cutting.

One page of directions regarding Manual Training is to be included in the Science Primer.

H(a).—Needlework, for girls.—Running and felling and back-stitching.

I.—Verses teaching morality and duties of children (3 pages).

J.—School Drill.

STANDARD III (CORRESPONDING TO LOWER CLASS OF
UPPER PRIMARY SCHOOL)—ONE YEAR'S COURSE.

Age about 10 years.

Class subjects.—Reading, Writing, Arithmetic; Literature Book; Historical and Geographical Readers; a Science Primer; Drawing (Hand and Eye-training); Practical Geometry (INSTEAD OF EUCLID); Manual work; Needlework for girls and School Drill.

* These Drawing Books are now in course of revision, and drawings of Indian leaves, plants and animals illustrating the lessons in agriculture, natural history and botany are to be included in them.

Reading—In addition to the Science Primer, a Literature book and Readers containing lessons in History and Geography will have to be prepared for the Upper Primary Standard, and the first half of these books will be used in this class. The Literature book should contain a few pieces of poetry, also some anecdotes with a moral tendency. It should not exceed 70 pages.

Writing—Writing out forms of letters to different persons.

Arithmetic.—G. C. M., L. C. M., including mental operations; *batsar-máhindá*, *hát-káli* and *foot-káli*. How to open a personal account with a village *mudi* or *mahájan*.

Object-lessons (10 pages)—

WATER.

Mist and fog—Are produced in the air and over tanks, etc., because the vapour, when cooled, changes into little drops of water.

Clouds—Are formed in the same way, but in the upper atmosphere.

Rain—Comes from these clouds, or from the vapour which has been cooled into drops of water.

Dew—Is water formed from vapour on or near the surface of the ground. The pupils should note when dew is formed, *i.e.*, whether during cloudy or cloudless weather, etc., the difference in the amount of dew in different seasons of the year, and on what objects the dew lies thickest.

Hailstones—Are rain-drops made solid by cold, and they fall usually during thunder-storms. Hailstones should be collected and examined, and allowed to melt in a glass, so that the water can be seen and tested.

Thunder and lightning—Also usually occur during storms of rain, hail, etc.

The Science Primer will contain—

A.—Botany (8 pages) *Stems and their functions*—

Stems of plants.—The stem grows upward, so that the plant may get as much light as it can. Green plants cannot grow without light. Observe the discolouration and unhealthy condition of grass growing when shaded from light.

Different kinds of stems—

a.—Woody stems.

b.—Climbling stems. Observe the twining tendrils by which the plants obtain support, *e.g.*, cucurbita.

c.—Succulent stems.

d.—Underground stems, *e.g.*, potatoe turmeric, ginger, etc.

B.—Natural History (10 pages)—

Difference between a vertebrate and an invertebrate animal as illustrated by comparing the wings, legs and body of a bird with those of a butterfly.

Animals without a backbone: a snail, a cray fish, an earthworm, a milliped, a butterfly, a leech and a cockroach compared with a fish.

The dog as compared with the cat in external appearance—the longish face—claws non-retractile—different breeds of dogs—Newfoundland, spaniel, greyhound, St. Bernard and the uses they are put to—dogs of the cold countries furnished with a thick coating of fur.

C.—Agriculture (16 pages) *for country schools, for boys only* (alternative with *Physics and Chemistry*)—

Why crops fail.

Drought-resisting crops.

Irrigation from small depth and from great depth.

D.—Physics (10 pages) *for town schools, for boys only*—

Liquids.—Surface of liquid is always level. Pressure exerted by liquids in all directions. Bodies weigh less in water than in air. Floating bodies.

Gases.—Pressure exerted by the atmosphere. Invert a tumbler filled with water, with the open mouth covered with a card. Observe the water is kept from falling. The syringe.

E.—Chemistry (6 pages) for town schools, for boys only—

Chemistry of a Candle.—A candle attached to a stout iron wire is lighted and gradually lowered into a wide-mouthed glass bottle: it continues to burn. Observe that the sides of the bottle begin to lose transparency and become covered over with mist. Where does the water come from? The mouth of the bottle is gradually closed with a glass or earthenware plate. The light begins to get more and more dim till it is extinguished. Pour lime-water into the bottle and shake it. The lime-water turns milky. Take some fresh lime-water in a tumbler and blow into it. The lime-water in this case also turns milky.

F.—Hygiene (16 pages), for boys only—

Air.—Pure air. Cause of its impurities. Overcrowding in houses and public institutions. Means of ventilation.

Water.—Its sources of supply. Different ways in which it is rendered impure. How to secure pure water. Filters. Alcoholic and other objectionable drinks.

Food.—Why do we eat. Over-eating and under-eating. Different kinds of food, including cereals, pulses, tubers, vegetables, meat, milk and its preparation, sugar, eggs, fruits, preserved foods, condiments.

Sunlight, with special reference to its disinfecting action and necessity to health.

F(a).—Domestic Economy (16 pages), for girls—

How to keep rooms clean.—How they become unclean. Open lamps. Spitting in rooms and on walls improper. Sitting with naked back to the wall. Cobwebs. Children not to play with dirty things in rooms.

Furnishing rooms.—Furniture and utensils to be sufficient for the requirements of the household. Everything in its place. Use of lanterns. Advantages of glass or glazed or stone vessels over metallic articles from a sanitary point of view.

The kitchen.—To be kept quite clean. Adjoining parts also to be clean. Utensils, cooking vessels, dishes to be made clean before and after use. Admission of light and air into the kitchen.

Sunlight, with special reference to its disinfecting action and necessity to health.

G.—Drawing (Hand- and Eye-training)—20 pages, explaining the lessons in the drawing book and the elementary practical geometry which is to take the place of mensuration are to be included in the Primer.

Subjects.—(1) Freehand drawing with chalk on the blackboard or a prepared wall surface. (2) Elementary practical geometry.

NOTE 1.—The value of freehand drawing on the blackboard as a means of physical and hand- and eye-training is very great, and is hardly sufficiently appreciated in most schemes adopted in Europe. The facility with which it can be put into practice in any school building which has *pukka* walls makes it especially suitable for India. The advantages of it are that the students do not sit in a stooping position, as in writing or drawing on paper. They stand upright, with the head erect and the example opposite the eye. They walk backwards and forwards occasionally to observe their work at a distance. The hand does not rest on anything, but moves freely on the wrist. This in itself gives the arm and wrist a strength and the hand a certainty of touch, which cannot be acquired by any other kind of drawing.

The difficulty regarding the provision of blackboards or other drawing surface for a large number of students in all the upper primary schools in Bengal is easily surmounted. It is obvious that any upright surface properly prepared will answer as well as or better than a blackboard. Any building which has a *pukka* wall can have a surface prepared for drawing on at comparatively small expense. Portland cement would be the best material: it resists damp and saltpetre, which destroy ordinary plaster, and it makes a surface, when properly prepared, which will last for years. The colour of the surface is the next consideration. The natural colour of Portland cement is dirty and ugly, but by mixing the cement with Indian red (a red ochre which can be obtained easily and cheaply) in the proportion of about 1 to 6 by weight, a low-toned and pleasant colour can be obtained which would not be trying to the eyes. So, instead of blackboards, a band of coloured Portland cement, about 3 feet wide running round the whole class-room, at a height of about 3 feet from the ground, would make an excellent surface for drawing on, and would be a cheerful decorative feature in the class-room. The black-coloured surface is only necessary for a teacher's work in demonstrating figures and diagrams to students who sit at some distance off. For students' drawing practice, it is neither necessary nor desirable. The next question is the drawing examples. These would be taken from the Indian School of Art drawing book alluded to before. They would be mounted on cardboard and hung from a strip of wood fastened to the wall at the upper edge of the drawing surface. The students would enlarge the examples to three or four times the size, so that the copying should not be merely mechanical.

The elementary course of practical geometry is also advocated as being of far greater educational value for students of this age than the learning of Euclid, which is almost sure to degenerate into a mere memory exercise. The instruments required are not expensive. They consist of a pair of pencil compasses, a six-inch scale, and one or two small set squares.

H.—Manual Training optional, except in mixed schools, where girls may have to take up this subject in place of needle work.—Bead-threading and string-weaving (4 pages).—

String-weaving (knotting, netting, looping, plaiting, weaving of single-loop chains of one string, sling-weaving).

H(a).—Needlework, for girls.—Cross-stitch and making a kurta.

I.—School Drill.

STANDARD IV (CORRESPONDING TO UPPER PRIMARY CLASS—ONE YEAR'S COURSE).

Age about 11 years.

Class subjects.—Reading, Writing, Arithmetic, a Literature book, Historical and Geographical Readers, Science Primer, Drawing (Hand and Eye-training), Practical Geometry and Mensuration, English (optional), Manual work (optional), Needle work for girls and School Drill.

Reading.—The whole of the Science Primer and the whole of the Literature Book and Geographical and Historical Readers for Standards III and IV.

Writing.—Revision of subjects of Standard III, writing forms of *chittha* and of simple bonds, and *jamakharcah*.

Arithmetic.—Revision of subjects of Standard III, simple proportion, vulgar and decimal fractions; problems.

Object-lessons (10 pages).—

The action of water in nature and on the surface of the land.

Water, when it falls in the form of rain, etc., partly runs over the surface of the ground into tanks, streams, and rivers: it partly sinks into the ground to pass into wells and to re-appear in the form of springs, etc., at a lower level, and it partly passes again into the air in the form of vapour.

The action of heavy rain in cutting channels in the earth or soil and in carrying away particles of light material, such as straw and wood, and of soil or earth, or even stones, into the nearest stream, and then into a larger stream or river, should be carefully watched by the pupils.

The pupils should study the nature of the nearest stream of water, determining in what part of the stream the current is most rapid, etc., and ascertaining how it carries away soil and even small stones, and how it cuts away its banks, etc.

The turbid water produced by a rapid stream should be placed in a glass tumbler, and the deposit of silt or soil found at the bottom on standing should be observed. Attention should be drawn to the fact that in this way new earth or soil has been formed in Bengal.

The pupils should be required to decide simple questions, such as—Is the ground on which the school stands level or sloping? Is the ground in the neighbourhood of the school, village or town level or sloping, the nature of the land being ascertained by watching the flow of water after rain (*i.e.*, by the drainage)? It should be noted that the greater the slope of the land, the more rapid will be the flow of water. The action of rain and running water in modifying the surface of the land must be fully explained.

The differences in the erosion of land by running water when (*a*) the land surface is bare, and (*b*) when the land is covered with grass or vegetation or by forests, must be explained.

Water can be made to pass through certain soils, sand, etc., easily, but it cannot pass through clay. This can be experimentally shown.

Wells and tanks are dependent for their supply of water on the level of the water in the soil, and the depth of this from the surface depends upon the nature of the soil, rainfall, etc. Subsoil water is essential to the growth of plants.

The Science Primer for this class to contain—

A.—Botany (8 pages).—Lessons on leaves and flowers.

Leaves.—Function of leaves.

Different parts of a leaf—the stalk and the blade.

Make a collection and examine the different kinds of simple and compound leaves.

Some leaves are sensitive to touch, *e.g.*, the sensitive plant.

Observe the order in which leaves close when the end of a branch is touched.

Flowers.—The function of flowers is to produce seeds, which give rise to a new plant.

Study of the different parts of a flower.

Count the number of sepals, petals, stamens and pistils of different kinds of flowers.

Examine pollen grains; also the pistil and the enclosed ovules.

Pollen must fall on the stigma for the maturing of the seed.

Pollination often done by insects. The brightly coloured petals serve to attract the insects.

B.—Natural History (10 pages)—

The cow and the horse compared—the cloven foot and the solid foot—other members of the cow family: the buffalo, the sheep, the goat. Stomach of a goat (a typical ruminant) examined and laid open—the four chambers—the construction of the stomach suited to the habits of the animals which chew the cud.

C.—Agriculture (16 pages) for country schools, for boys only, alternative with Physics and Chemistry—

Food and fodder-yielding trees.

Insect and fungus pests.

Oil-cakes as cattle food and manure.

D.—Physics (10 pages) for town schools, for boys only.—

Heat—

Expansion of solids, liquids, and gases.

Make a simple liquid thermometer with a bottle and a tube or quill, and explain the principle of a thermometer.

Change of condition—

From solid to liquid.

" liquid to gas.

Conduction—

Good conductors and bad conductors. Principle of warm clothing.

Convection—

Air currents and winds.

Radiation.

Boiling—

Elastic force of steam.

A simple reading lesson on the steam-engine.

E.—Chemistry (6 pages) for town schools, for boys only.—
Chemistry of a Candle, second-half:—

When air is breathed out, an invisible gas comes out which has the property of turning lime-water milky. This gas is also formed when a candle burns. Combustion to be explained and compared to respiration. The part which oxygen plays. Blow air into a charcoal fire by means of a pair of bellows. The fire becomes more and more brisk. The common practice in this country of stirring a fire by blowing air into it by means of a bamboo pipe to be referred to.

F.—Hygiene (for boys only)—16 pages—

Slightly more advanced than the matters intended for Lower Primary course. *Cleanliness. Epidemics.*

Ordinary accidents.—Burns, snake-bites, bites of rabid animals, drowning.

F(a).—Domestic Economy (for girls)—16 pages—

Cooking.—Good water to be used. Every article to be properly prepared and well cleaned and washed before putting it in the cooking pot. Cooking pots to be cleaned before use. Cooked food to be kept covered. Variety of dishes necessary.

Meals.—Time of meals. All to eat at the same time if possible. Room for meals to be spacious and clean. Dishes and cups. Distribution of food. Economy and no waste. Simultaneous eating saves trouble and ensures economy. Evils of eating at separate times. Feeding of infants and little children. Over-feeding and under-feeding.

Bed-room.—Elevated bed necessary, especially in damp rooms. Over-crowding bad. Use of curtains. Sunning and washing bedding and clothes. Ventilation of rooms. Soiling of bedding by little children.

Ordinary accidents.—Burns, snake-bites, bites of rabid animals, drowning.

G.—Drawing (Hand- and Eye-training).—Freehand drawing book. Practical Geometry and Mensuration (20 pages).

H.—Manual Training optional, except in mixed schools, where girls may have to take up this subject in place of needlework—3 pages.—

Clay modelling, such as models of balls, cylinders, rings and fruits.

H(a).—Needlework (for girls).—Cutting out a *kurta*; sewing on buttons and strings; making button-holes; marking.

I.—School Drill.

J.—English (optional).—An English Primer with reading lessons on common objects. Lessons from a Word-book—(40 pages).

STANDARD V.—CLASS ABOVE THE UPPER PRIMARY STANDARD OR LOWER CLASS OF MIDDLE SCHOOL—ONE YEAR'S COURSE.

Age about 12 years.

Class subjects.—Reading, Writing, Arithmetic, a Literature book (about 200 pages), Geographical and Historical Readers, including some lessons in Physical Geography (together about 180 pages), Science Reader, drawing (Hand- and Eye-training), Practical Geometry and Mensuration alternative with Euclid first 26 propositions of book I, English (optional), Manual work (optional), Needlework (for girls) and School Drill.

Reading.—More advanced Readers, to be prepared for the Middle School Standard in Literature, History and Geography, of which one-half would be read in this year's course.

Writing.—Writing samples of *khatian* from *chitha*; *jamabandi*; *mahajani khasra* and *rokar*. Writing *chalans* for remitting money to treasury or to zamindar's or mahajan's head office.

Arithmetic.—Up to interest and square root, including the native methods of expressing money, weight and land measure, calculation of prices and wages; mental operations for abridging calculations.

The Science Reader for this class to contain—

A.—Botany (12 pages)—

Life history of a plant—

(1) How plants obtain their food—

A more detailed study of the functions of the root and leaf. Observe the arrangement of leaves to secure the largest area exposed to light. Transpiration.

(2) How plants store up food for future use—

(a) in the stem;

(b) in the root;

(c) in the seed for future use of the seedling.

(3) How plants protect themselves by means of thorns and other devices.

B.—Natural History (12 pages).—Teeth of certain typical animals.

Arrangement of the teeth in the upper and lower jaw respectively of the cat—the prominent *canines*—a characteristic of the carnivora—the function of the incisor—the canine and the molar teeth explained.

Dentition of a ruminant and a rodent compared.

Some typical members of the rodent family: the rat and the squirrel.

C.—Agriculture (20 pages) for country schools, for boys only (alternative with Physics and Chemistry).—

Every Middle School choosing Agriculture as an alternative subject in place of Physics and Chemistry should provide itself with land sufficient for a small garden, where each boy can grow a few square yards of some crop. Each boy must also make a collection of at least five articles of agricultural interest for the school museum under the teacher's guidance. In course of time a complete local collection of soils, crops, manures, weeds, oils, fibres and other agricultural produce, insect and fungus pests, insecticides and fungicides, etc., may be made.

Fertility of soil. Lessons on *araha* and *dhaincha*. How saltpetre is made. Sugarcane and sugar. Foot-and-mouth disease.

D.—Physics (10 pages) for town schools, for boys only.—
Light—

Light travels in a straight line. Shadows.

Reflection of light—plane mirror. Refraction of light. Refraction through a prism.

A double convex lens.—Formation of images by a double convex lens. Use of a lens as a simple microscope.

E.—Chemistry (6 pages) for town schools, for boys only.—
Metals—

General properties of the metals.—Lustre—malleability; the alloys and their mode of formation. Liability to rust.

The well-known metals—Gold, silver, copper, tin, lead, zinc, iron, and the alloys brass and *kansa*; the different uses to which they are put.

F.—Hygiene (for boys only) 20 pages—

A short chapter defining terms used, and giving some idea of the human body and the functions of nutrition and respiration.

Food.—Components of perfect food. Articles of good food, advantages of variety in food. Food according to age and occupation.

Drink.—Water and its sources of supply.—How to secure good water. Rivers, tanks and wells how to be protected from pollution. Filters; storage of rain water. Alcoholic and other drinks.

Air.—Carbonic acid gas. Other substances that pollute the air. Air inside and outside of houses. Air in towns, swamps, and in dry and high places. Slow poisoning by impure air. Natural purification of air how carried on. Ventilation in houses.

Construction of dwelling-houses.—Admission of air and sunlight. How to keep the premises clean and dry.

F(a).—Domestic Economy (for girls)—20 pages—

Feeding, bathing and cleanliness, pure air, ventilation of houses. Management of common ailments. Cold, coughs, fevers, skin diseases, indigestion. Sick diet.

Burns and scalds, wounds and bruises.

G.—Free-hand Drawing (Hand and Eye-training).—

G(a).—Practical plane geometry, including simple practical mensuration of lines and surfaces (25 pages).

G(b).—Euclid, alternative with *G(a)*, first 26 propositions of 1st Book.

H.—Manual Training, optional, except in mixed schools, where girls may have to take up this subject in place of needlework —
3 pages—

Clay modelling—more advanced course.

*H(a).—Needlework (for girls).—*Gathering and sewing on a band, darning and herring-boning.

I.—School Drill.

*J.—English, (optional) 60 pages.—*English Reader. More advanced lessons from a Wordbook. Composition of simple sentences. Translation of short sentences from vernacular into English and *vice versa*.

STANDARD VI.—MIDDLE STANDARD—ONE YEAR'S COURSE.

Age about 13 years.

Class subjects.—Reading, Writing, Arithmetic, a Literature book, Geographical and Historical Readers, including some lessons in Physical Geography, Science Reader, Drawing (Hand and Eye-training), Practical Geometry and Mensuration, alternative with Euclid, Book I, English (optional), Manual work (optional), Needlework (for girls) and School Drill.

Reading.—The second halves of the four Readers to be read and the first halves revised.

Writing.—Revision of subjects of Standard V; writing mortgage deeds and deeds of sale.

Arithmetic.—The whole. Methods of checking ordinary accounts between landlord and tenant and creditor and debtor.

Science Reader to contain—

A.—Botany (12 pages).—Life history of a plant.

How the seeds mature—

(a) Pollination by insects. The object of bright colouring of the flower-leaves. Insects are also attracted by scent. Observe how small and inconspicuous flowers club together to become conspicuous, e.g., *compositæ*.

(b) Pollination by the wind.

(c) Water as carrier of pollen grain.

Dispersion of seeds, and the object of dispersion—

(a) Winged seeds.

(b) Seeds which are scattered by mechanical means.

(c) Seeds which are dispersed through the agency of birds and other animals.

(d) Dispersion of seed by currents of water.

B.—Natural History (12 pages).—

Development and metamorphosis of an insect, e.g., a butterfly or a silkworm—the pupa and the chrysalis stage, etc.

Some typical members of the monkey family; the common monkey (*bandar*)—the (*hanuman*).

The snakes: their habits—mode of progression, how the snake bites—the curved, grooved poison fang.

C.—Agriculture (24 pages for boys in country schools alternative with Physics and Chemistry).—

Rotation of crops.

Feed and keep of cattle.

Use of excreta and bones as manure.

Segregation of cattle during epidemics.

D.—Physics (10 pages) for town schools, for boys only.—

Electricity and Magnetism—

Two kinds of electrification. Action of electrified bodies on one another. A pith-ball electroscope.

Directive action of earth on a magnet. A simple compass needle. Mutual action of similar and opposite poles.

Production of electric currents. Action of a current on a suspended magnetic needle.

E.—Chemistry (6 pages) for town schools, for boys only.—

Elements and compounds, carbon and sulphur.

Carbon, graphite and diamond; the physical properties of each well illustrated and the economical uses to which they are applied. What happens when a piece of charcoal is burnt. (*Cf.* Lesson on the Chemistry of a Candle.)

Some ideas of an *element* and a *compound* incidentally conveyed. A blade of a knife previously well cleaned is dipped into a solution of sulphate of copper: the deposit of metallic copper shown. The copper a component of sulphate of copper; in a compound the properties of the component elements are entirely changed.

A lesson on Sulphur: its physical properties, colour, brittleness, bad conductivity for heat, fusibility, insolubility in water, economic uses, etc.

F.—Hygiene for boys only (20 pages)—

Village conservancy.—Disposal of filth and sewage. How villages are rendered unhealthy.

Cleanliness.—Personal and domestic. Bathing.

Dress.—Dress materials. Dress according to weather. Washing clothes.

Exercise and rest.—Different kinds of exercise. Sleep and its hours. Absolute rest in certain cases.

Epidemics.—Precautions to be taken.

Accidents.—Burns, snake-bites, bites of rabid animals, drowning, bleeding.

F(a).—Domestic Economy for girls (20 pages)—

Management of infectious diseases, including cholera, small-pox, chicken-pox, measles.

Infection.—Disinfection of premises, bedding, clothes.

The sick room.—Duties of the sick nurse; food and drinks for the sick.

Cooking of articles of sick diet.—Necessity of absolute cleanliness in preparing food, including pure water; aerated waters, lime-water.

G.—Drawing (Hand and Eye-training).—Freehand drawing.

G(a).—Practical plane Geometry, including simple practical Mensuration of lines and surfaces (25 pages).

G(b).—Euclid, whole of 1st Book, alternative with G(a).

H.—Manual Training (optional, except in mixed schools, where girls may have to take up this subject in place of needlework) (5 pages).—

Clay modelling—more advanced course.

H(a).—Needlework for girls.—Cutting out and making a piran; feather-stitching and ornamental marking.

I.—School Drill.

J.—English (optional) 60 pages.—Middle English Course as prescribed by the Director of Public Instruction. An elementary English Grammar with simple analysis and parsing. Composition and translation.

APPENDIX F.

Statement showing the number of hours to be spent in a week on each subject in the various standards.

NAMES OF SUBJECTS.	INFANT STAGES.			Standard I.	Standard II.	Standard III.	Standard IV.	Standard V.	Standard VI.	REMARKS.
	Stage I.	Stage II.	Stage III.							
1	2	3	4	5	6	7	8	9	10	11
I. Drawing ...	2	2	2	2	2	2	2	2	2	Five hours a day for 5 days in the week and 3 hours a day on Saturday give 28 hours, which leave 4 hours or more to be allotted to any extra subject, such as English, religious teaching, manual training, &c., which a school may choose to take up, beyond the regular school subjects.
II. Kindergarten ...	3	3	2	...	...	...	...	...	...
III. Object Lessons ...	3	3	2	3	3	2	2	...	...
IV. Manual training (optional).	...	...	...	(2)	(2)	(2)	(2)	(2)	(2)	Extra hours.
V. Needlework, for girls only.	...	...	(1)	(2)	(2)	(2)	(2)	(2)	(2)	
VI. Drill, for boys ...	3	3	3	3	3	2	2	2	2	One teacher aided by two, three or four monitors or pupil teachers is expected to teach successfully a Lower Primary School and two teachers with monitors an Upper Primary School.
VIa. Drill, for girls ...										
VII. Writing ...	3	6	6	3	3	1	1	1	1	
VIII. Arithmetic ...	3	3	6	6	6	5	5	5	5	
IX. Reading (Science Reader).	...	3	3	6	6	4	4	4	4	
X. History ...	...	...	...	...	...	1½	1½	1½	1½	
XI. Geography ...	...	...	...	...	...	1½	1½	1½	1½	
XII. Mensuration, or Euclid for boys only.	...	...	...	...	...	2	2	2	2	
XIII. Literature, including Poetry, Grammar and Composition.	...	...	...	1	1	3	3	5	5	
XIV. English ...	...	...	...	...	...	...	(4)	(4)	(4)	Extra hours.
Total ...	17	23	24	24	24	24	24	24	24	

APPENDIX G.

THE TEACHER'S MANUAL FOR THE LOWER PRIMARY STANDARD (200 PAGES).

1. *Introduction.*—A short and simple statement of the principles of the Kindergarten method of training young children (10 pages).
2. The Kindergarten occupations and action songs (8 pages).
3. The requirements of the syllabus for the Infant and Lower Primary standards of vernacular education (10 pages).
4. The school-room and arrangement of children (3 pages).
5. Methods of giving lessons on particular subjects; full notes of lessons containing detailed instructions as to how to give lessons on form, colour, writing, reading, arithmetic, etc., so that the pupils might thoroughly learn the

subjects taught, and that at the same time their senses might be trained, and their power of expression and all the faculties—physical, mental, and moral—be duly developed (162 pages).

6. Qualifications and duties of a good teacher, and his conduct towards his pupils; punctuality and discipline; corporal punishment (6 pages).

THE TEACHER'S MANUAL FOR THE UPPER PRIMARY AND MIDDLE VERNACULAR STANDARDS (250 PAGES).

1. *Introduction*.—The principles of Froebel's method, the principles underlying school education, the English Public School system, the Hindu method (20 pages).
2. The requirements of the syllabus for the Upper Primary and Middle Vernacular standards (10 pages).
3. *Class-teaching*.—Instruction and education; collective instruction; attention to individuals; analysis and synthesis; oral teaching and questioning; the Socratic method; answering, proceeding from the known to the unknown, from the concrete to the abstract; the verbal, material and pictorial illustration; the use to be made of analogy and contrast; the use of the black-board; learning by heart; repetition; home exercises; examining (30 pages).
4. Methods of teaching particular subjects, together with notes of lessons selected from text-books prescribed in science, literature, history, geography, etc., (155 pages).
5. Moral training (5 pages).
6. *Organization*.—The organization of a good school, time-tables, the arrangements into sections and classes, the standard of classification, the teaching staff, the apparatus and furniture, the register and account books, drill and recreation, sanitation of the school-house, etc. (10 pages).
- 7 The qualities desirable in a pupil; necessity of punctuality; discipline; reward and punishment; drill as an aid to discipline (15 pages).
8. Qualifications and duties of a good teacher, and his conduct towards his pupil, (5 pages).

A. P.
E. B. H.
R. M.
J. C. B.
P. O. R.
N. G. M.
B. P. G.
R. M.

CALCUTTA,
The 17th April 1900.

No. 1091T.—G., dated Darjeeling, the 7th September 1900.

From—E. LISTER, Esq., Under-Secy. to the Govt. of Bengal, General Dept.,
To—The Director of Public Instruction, Bengal.

BEFORE dealing finally with the further report of the Vernacular Education Committee, submitted with your letter No. 3126, dated the 8th May 1900, the Lieutenant-Governor would be obliged by your explaining fully how far the Committee's proposals, in paragraph 15 of the report for the introduction of the Kindergarten system generally in primary schools in Bengal, vary from the system which was tried in the Central Provinces and abolished (*vide* paragraph 7 of the report); what reasons there are for anticipating a different result for the proposed plan; and how far the proposals receive support from any experience in other Provinces.

No. 2223T., dated Darjeeling, the 17th October 1900.

From—A. PEDLER, Esq., F.R.S., Director of Public Instruction, Bengal,
To—The Secretary to the Government of Bengal, General Department.

I HAVE the honour to acknowledge the receipt of your No. 1091T.—G., dated 7th September, in which you ask me to explain fully how far the proposals made by the Committee appointed to consider the revision of the subjects to be taught in Vernacular Education in paragraph 15 of their report, in which they propose the introduction of the Kindergarten system generally in Bengal, vary from the system which was tried in the Central Provinces and abolished; what reasons there are for anticipating a different result from the proposed plan, and how far the proposals receive support from any experience in other Provinces.

2. I would, in the first instance, explain that the statement that the Kindergarten system was tried and abolished in the Central Provinces is not wholly correct. The revision of the course of instruction which took place in the Central Provinces about a year ago, excluded the Kindergarten system from the rural primary schools only, and no change was made in the system as carried on in urban schools. As explained also in notes on this point previously submitted,* and copy of which is attached, the exclusion of the Kindergarten system was not attempted to be justified on any educational principles whatever, and is regarded by some of the Central Provinces educational officers as rather a retrograde step. Exclusion of Kindergarten teaching in rural schools was ordered apparently on three grounds—

* Memorandum dated 10th November 1899 entitled "Recent changes in Primary Education in the Central Provinces," signed "A. P."

- (1) the necessity of reducing the amount of instruction owing to the introduction of a half time or half-day's system of tuition only instead of a full day's work which had previously obtained;
- (2) the inferiority of the teaching staff and the inability of the teachers to teach the precise methods of Kindergarten which had been introduced; and
- (3) the wish to give larger amounts of instruction in such subjects as Native and European arithmetic, mental arithmetic, bazar accounts, &c.

3. I should wish to explain very clearly that in considering this subject it is desirable to differentiate between Kindergarten principles and Kindergarten practice, or the methods used in carrying these principles into effect.

The main educational principle which Froebel laid down was that it was necessary in a child's education to train *all* the faculties of the mind and all the activities of the body from the very beginning, and practically at the same time, so as to make the progress of the child's nature harmonious, broad and complete, instead of one-sided and narrow only. In ordinary systems of infant education only one faculty of the mind is taken up, and that is the memory, and the training of the other faculties of the mind and the due exercise of the muscles of the body are usually entirely neglected. The memory is trained and strengthened in the earlier stages of ordinary education to such an extent that in after school-life it is in a vast number of instances difficult and almost impossible to make the pupils use or rely on any other faculty, and memory and memory alone is the great stand-by with large numbers of students. In India this is specially the case, and anyone with experience of Indian students knows that such faculties as reasoning powers, observation, grasp of a subject and originality, &c., are lamentably absent among Indian students as a whole. I personally believe that this absence is to a considerable extent due to the faulty training which Indian children receive in schools conducted on the present faulty principles of instruction.

Froebel's principle is that a child's occupations in school should be so chosen that accuracy, observation, the first principles of reasoning, the possibility of discovering facts by individuals and by individual observation and reasoning are all taught at the same time as the memory is developed and strengthened. All these faculties are cultivated and fostered by the use of certain occupations which in Europe involve the use of the so-called "gifts."

At the same time also nicety and dexterity in handling, accuracy of movement, and obedience to command or discipline, with pleasure in active exertion are taught by the various forms of occupation, like paper-folding and cutting, stick-placing, pattern making, action songs, drill, &c., &c. The occupations, such as the use of gifts, practically develop all the faculties of the mind, and the manual occupations, drill, &c., develop the various activities of the body.

4. Kindergarten, too, is practically only a portion of the system of teaching, commonly included under the head of object-lessons, for even in the earliest forms of Kindergarten certain objects are given for the children to handle, and they are taught from them to observe certain facts and draw certain inferences. This is exactly what is done in the higher classes in what is called object-lesson teaching. Indeed in many respects the term object-lessons is much more comprehensive and far superior to the ordinary term Kindergarten. In practice, however, the terms cannot be separated, and the object-lessons spoken of in the higher stages of instruction proposed by the Committee are merely more advanced Kindergarten. It is much to be regretted, however, that the term Kindergarten is very often misunderstood, and it is thought to be a technical branch of education very difficult to understand and impossible to practise, except after the most elaborate preparation in the way of apparatus and teachers, &c. It is, however, submitted that the principles themselves can always be worked up to, and that even an unskilled teacher may be made to help his pupils to exercise other faculties besides that of memory.

The word Kindergarten used by Froebel has of course become so familiar in reference to these principles that it is difficult to use any other equally comprehensive term, but the name might with advantage be dropped altogether in the Committee's proposals, and the difference between the system proposed and the old system of training might be said to be the difference between the scientific and complete system of training and the unscientific and fragmentary system.

5. The teaching of Kindergarten in Europe has to a great extent been stereotyped into the use of certain gifts, the first six of which are as follow:—

Gift 1.—Six worsted balls in the colours of the rainbow, namely, three primary colours—red, blue and yellow, and three mixed—green, violet, and orange.

Gift 2.—A wooden ball, a cylinder, and two cubes, one of them with holes and eyelets; also some strings and a stick.

Gift 3.—A cube divided equally through all its sides, so that each part represents the whole on a smaller scale, and the one cube makes eight smaller cubes.

Gift 4.—A cube divided into eight oblong pieces (or bricks), the length of each being twice the breadth, and the breadth twice the thickness.

Gifts 5 and 6.—Cubes divided in various ways different from Gift 4.

Other gifts follow, which are used for stick-laying and placing, paper-folding and cutting, &c., &c.

These gifts, which are most useful and appropriate in European schools, have by their extended and prolonged use proved their suitability for European children, but it does not appear that these are the only gifts or the only means of working out Froebel's principles. Further, these gifts as ordinarily made are expensive, a set of well-made gifts, costing at least Rs. 9, and a country-made set Rs. 5. In English schools also, each pupil has a set of gifts for his own use.

Obviously it is impossible in Indian schools to give a set of gifts to each primary pupil; for the total cost of education of a primary pupil averages about Rs. 2-8 a year. In the Central Provinces one or two such sets are provided in each primary school, but the essence of Kindergarten teaching is that each pupil is able to do all the desired work with his own hands. Hence it appeared to me that in the Central Provinces a fatal mistake had been made in prescribing the stereotyped and costly European Froebel's gifts. The fact that the gifts are quite foreign to an Indian child's experience and that the pupil ordinarily could not handle the gifts and so actually engage in the object-lesson at once rendered success in this precise

experiment in Kindergarten a great difficulty, and almost invited its failure. The Central Provinces system must be modified in the future if it is to become a success, and must be made to suit Indian pupils and Indian circumstances and also be made of such a kind that its cost enables every pupil to take part in the exercise.

It is open to very grave doubt whether the gifts of coloured worsted balls, wooden cubes, &c., which may and do appeal to European children, will appeal equally to Indian children, and hence when the Committee considered the question of the introduction of Kindergarten they very rightly discarded Froebel's gifts altogether, and while accepting Froebel's principles, they have attempted to work out the application of his principles by the use of purely indigenous materials, and of such a kind that every child can provide its own gifts to illustrate the principles of teaching.

Hence the withdrawal of the Kindergarten system from the rural schools in the Central Provinces cannot be taken to represent at all a failure of Kindergarten principles in Indian schools, but it really represents only the want of success of a particular (and for India, in my opinion, a mistaken) form of the application of the principles.

6. That this is a correct view of the situation appears to be borne out by the history of the introduction of Kindergarten into the Madras educational work. The following is Mr. Cotton's description of this in his Quinquennial Review of Education in India:—

Kindergarten training began to receive serious attention in 1875, when Mrs. Brander, then Superintendent of the Female Normal School at Madras City, introduced the system into the lower classes of the practising school, and also devoted an hour a week after school hours to the instruction of the Normal students in Kindergarten occupations. The system was first recognised in the Grant-in-Aid Code of 1885, in which three Kindergarten occupations and four action songs were prescribed for the first and second standards in "results" schools for Indian children, and for the third standard also in European schools. Grants varying from 2 to 6 annas each for Indian children, and from 2 annas to Re. 1½ for European children were allowed for these occupations and songs separately. In 1892, the curriculum was altered so as to include as many as six occupations, and pupils were required to answer simple question on the form, colour, and other striking qualities of the materials used. But as the occupations were taught without the songs and *vice versa*, they came to be practised very mechanically; and beyond some dexterity and an improved knowledge of colour and form, the pupils gained little. Hence, in 1896, it was ruled that simple stories should be told to the children, and that the occupations and action songs should illustrate these stories, and that one consolidated grant should be given for the three subdivisions (stories, occupations and songs). The rate of grant for Kindergarten has since been raised to the scale provided for the second language. This has led to an improvement in teaching, and to a larger number of passes. In 1896-97, the total number of passes in Kindergarten for "results grants" in Primary schools for boys (excluding "salary results" schools) was 1,438. But it is only in the very best Girls' schools and in Training Schools for mistresses, that Kindergarten methods are systematically and intelligently carried out. In Training Schools for masters of the Primary and Lower Secondary grade, little has yet been done—mainly for want of qualified teachers. With a view to supply this want, the Director proposes gradually to make instruction in Kindergarten methods compulsory in all practising schools managed by the Department, and to require the students under training to devote special attention to the matter. "The paltry assignment which alone it has been found possible to make to 'results schools' has led to the neglect of the teaching of optional subjects generally in such schools, and it was partly, with a view to eradicate this evil, that the important changes in the Grant-in-Aid Code, now under the consideration of Government, were recommended by the recent Conference.

Mrs. Brander, who is the Madras authority on Indian Kindergarten, has in her new books just published entirely discarded the uses of the European forms of Froebel's gifts.

7. The above paragraphs have dealt with the reason for the want of success of the Kindergarten system in the Central Provinces. It is, however, also asked what reasons there are for anticipating a different result if this system is introduced into Bengal. It has been pointed out that the system proposed by the Committee does not follow at all in the train of the Central Provinces system, and it is proposed to depart entirely from the stereotyped European system, and to introduce simple exercises, which can be made with pieces of string, paper, leaves, coloured cloths, and objects of every-day life, such as a piece of wood, a box, a stool, or chair, a table or a school desk, simple lessons about plants, &c. (see page 13 of Committee Report, Appendix E, &c.).

No expensive "gifts" are to be given which children would find are quite outside their ordinary lives and experiences; but objects found in every school-house and in every village are to be selected and used in the school, and the various faculties of observation, reasoning, descriptive powers, &c., are to be exercised and practised on these familiar objects. School work will therefore be really a developed part of their every-day life, while habits of accuracy, obedience, &c., will be inculcated by the process of stick-laying (in which small and thin pieces of bamboo may be used), and simple physical exercises and action songs (see pages 13 and 14, &c., &c., of Report).

No teacher should have any difficulty in making a child observe the various properties of say a piece of wood, or that some animals walk, some have two legs, some four or more legs, that some animals crawl, some fly, &c., &c.

Indeed for such teaching no special instruction for the primary school teachers in Bengal is at present possible, though, of course, it is not contended that a properly trained teacher would not secure far better results than an untrained one with the system of instruction which has been proposed.

I would ask His Honour to carefully go through the detailed syllabus of instruction proposed by the Committee, and to note that in the great majority of the subjects in which instruction is to be given, everything, which is treated of, almost forms an integral part of every-day life in the town or country, as the case may be.

8. It is of course neither hoped nor expected that the teachers will all at once teach the new subjects well. It is almost certain they will teach them badly, but what is contended is that the teaching cannot be worse than the present absolutely mechanical system of training the memory whereby all the other faculties are dulled at the expense of monotonous parrot-like exercises. It is also apparently a perfectly sound principle that bad teaching with a good educational system will produce better results than the same bad teaching with an unsound and rotten system. Hence the change is urged notwithstanding the absolutely grave difficulties which will have to be faced.

9. With regard to the experience of other Provinces in the matter of modern forms of instruction involving the principles underlying the Kindergarten system, that of Madras has already been alluded to in paragraph 6 of this letter, but the following additional information about the Madras system may be again taken from Mr. Cotton's report:—

The extent to which practical subjects are encouraged by the optional system which prevails in Madras may be learnt from the following extract from the syllabus of study prescribed by the Educational Rules for the fourth or highest standard in primary schools:—

Object Lessons or Elementary Science—

- (a) To show a fuller acquaintance than in the third standard with (1) familiar animals or animal products; (2) familiar plants or vegetable products; (3) familiar minerals or mineral products; and (4) familiar facts regarding the weather. Twenty-four lessons to be prepared, six from each subdivision.
- (b) To answer questions more difficult than in the third standard on the lessons prepared with reference to (1) the food, habits, and uses of the animals, their classification and structure, and the adaptation of their structure to their food and habits; (2) the cultivation or mode of growth of the plants, their general structure and uses; and (3) the origin or preparation of the mineral substances and their chief properties and uses.
- (c) To answer simple questions on the chief characteristics of the classes to which the animals, plants, and minerals belong and on the chief points of resemblance between those of the same class and of difference from those of other classes. The animals, plants, and minerals shall be selected from those in the neighbourhood with which the pupils may be expected to be familiar, and the examination shall have reference, in part at least, to actual observations made by the pupils during the year.

"Free-hand Drawing.

Free-hand drawing on paper from enlarged copy on the black-board or from a large diagram, curved figures, ornamental forms, common objects, flowers, leaves, &c.

"Needlework (for girls in Native schools)—

- (a) To cut from a pattern or by measurement, and to show ability to make a jacket and a petticoat of full size suitable to a girl of from six to twelve years of age.
- (b) To show one finished garment of each kind done in the course of the year.

- (c) To work button-boles.
- (d) To darn an old cloth.

"Geography—

- (a) Shape and size of the earth; simple notions regarding the relations of sun, moon, and earth.
- (b) The oceans and continents of the world.
- (c) The geography of the Madras Presidency, Coorg, Travancore, Mysore, Cochin, and Hyderabad, as in any approved book; also the important physical features of the rest of India.

"History of India—

A very elementary knowledge of the leading periods of the history of India down to 1858, with such a knowledge of the geography of Asia as may be necessary for the intelligent study of the subject.

"Agriculture (for boys only)—

The elements of agriculture as in any approved book.

"Mensuration (for boys only)—

Definitions of, and connected with, the various figures named below :

- (a) Lengths—linear measures, English and Indian. Practical use of the chain, tape and rod.
- (b) Areas—square, rectangle.

"Hygiene and Elementary Sanitary Science—

Elements of hygiene as in any approved book. The pupil will be expected to answer such simple questions on sanitation as would come within his daily experience."

In order to induce managers of "results schools" to teach optional subjects, the scale of "results grants" fixed for some of them is raised from time to time. Thus during the last five years the grants for Kindergarten and for object lessons and elementary science have been raised to the amount fixed for the second language; and in the fourth and higher standards, drawing and agriculture now carry a higher grant than the second language, geography, or history. As tested by the results of the examinations, geography and hygiene are the most popular of the optional subjects. During the last five years the number of passes in agriculture has risen from 567 to 829, and the number of passes in drawing from 180 to 736. In compliance with a suggestion from Government, instructions have recently been issued for the improvement of the teaching in hygiene.

10. If His Honour will compare the subjects detailed above with the syllabus given by the Committee in their Report, it will be found there is a remarkable agreement not only in the actual subjects themselves, but even in the detailed parts of each subject which are required in the Madras Code and proposed Bengal Code. This has been purely accidental; for the details of the Madras Code were not known to me or to the Committee when the Report was written.

11. In the case of Bombay I have had difficulty in ascertaining the full facts. They appear to be briefly as follows:—

In the case of the primary schools in Bombay in the standard issued in 1897 for the infant classes (boys), the following subjects are included—

- (c) simple instruction in the form, colour and use of common objects (*i.e.*, apparently modified Kindergarten training);
- (e) recitation and singing in unison of simple household songs;
- (f) infant drill and exercises.

And in the Girls' schools needle-work is required.

Payments are also made according to a notification of 1890 for passing in drawing in vernacular schools, while at higher stages in vernacular schools geometrical drawing is introduced.

Hence it will be seen that in Bombay also much attention is paid to practical or modern subjects in elementary schools.

12. In the case of the Punjab, object-lessons, physical science, and drawing have for years formed part of the optional subjects in the curriculum of the vernacular and anglo-vernacular schools. Object-lessons and agriculture appear to have lately been made compulsory. Mr. Cotton also writes in his report about the Punjab—

"In Primary schools, practical subjects occupy a fair place. A course of objects-lessons has been introduced into each class during the period under review. Agriculture is taught in every Board school, the teachers being required to take their pupils out into the fields, to illustrate the lessons by reference to the actual operation of field-work. A little practical mensuration is also taught, though complaint is made that the simple apparatus for this is sometimes lacking."

13. In the case of Burma the following are the remarks made by Mr. Cotton :—

In Burma, where Missionary influence is strong, practical subjects of infant education have taken root. Kindergarten methods are now adopted in 12 schools, where the total attendance was 178 in the first-year class and 97 in the second-year class. There is a Kindergarten class in the Government Normal School at Moulmein, with 20 pupils, to enable the students to acquire a practical knowledge of the system. During last year Sloyd was introduced into the same school. Vocal music is taught in four schools, which passed altogether 548 pupils in this subject in 1896-97. Mr. Sheriff, of the Teachers' Institute at Rangoon, is active in training teachers in the Sol-fa system. Calisthenics and musical drill are also practised at several of the Girls' schools conducted by Missionaries; and in some of the Boys' schools there are classes for carpentry, weaving, shorthand, commercial arithmetic and other technical subjects. In 1896, Sir E. Buck summoned a Conference to discuss the question of introducing the elements of agriculture and science into the schools generally. Arrangements have been made for introducing these subjects, and for training teachers in them, as soon as suitable text-books are ready.

Drawing is now taught in 22 Anglo-Vernacular schools compared with 18, three years ago, the increase being due to the introduction of this subject into schools under private management. Shading from the east is at present not insisted upon. In 1896-97, the total number of passes was 1,249 of which 219 were from St. Paul's Roman Catholic Mission School at Rangoon, and 171 from the Rangoon Collegiate School.

During 1896-97, advantage was taken of the aptitude of the Burmans for drawing to Institute Teachers' certificates in that subject. Two grades of instruction were drawn up, a Primary and a Secondary: the former qualifying for grants in all Vernacular schools and the Primary departments of Anglo-Vernacular schools, the latter in the Middle and High departments of Anglo-Vernacular schools. A beginning was made with free-hand and geometrical drawing in each grade. Owing to the late period of the year, it was only possible to open classes at three centres. At Prome and Pegu the services of the drawing master of the Municipal school were utilised, while at Rangoon a special class was held in connection with the Teachers' Institute. With a view to bringing drawing within the reach of all lay schools, special provision was made for attaching itinerant teachers to these classes, where they received daily instruction for one month. At an examination held in November, the total number of passes among itinerant teachers was 129. The experiment will be extended next year; and it is hoped that it will have the effect of popularising the subject of drawing in Vernacular schools.

14. Even in small Provinces like Coorg and Berar primary education is now being made more practical, as can be seen from the following extracts from Mr. Cotton's report :—

Similarly, in Coorg the system of general education closely follows that in Madras. The Secondary course includes elementary science, hygiene, agriculture, and mensuration as optional subjects, with needlework for girls. Nothing is said about drawing. The Primary course includes hygiene, mensuration, agriculture, and freehand drawing as optional subjects, also with needlework for girls.

In Berar, again, the general system of education closely follows that in Bombay. The course for all classes of schools was revised in 1896. In Primary schools easy object-lessons are prescribed for the first standard, and the recitation of poetry and singing in unison for the first two standards; the "Way to Health" and elementary physical geography come into the two highest standards, with mensuration as an optional subject.

15. It is contended, therefore, there are abundant precedents in India for the Committee's attempt to make Primary education in Bengal of a more practical nature, and to use modified Kindergarten principles (though the name Kindergarten might be omitted) as the basis of the lower stages of education. Also, so far as can be seen, these practical methods of education in India have proved a success. At all events in most provinces where they have been tried there is no talk of going back to the old methods. Hence the Committee have looked forward with confidence to a successful result if the scheme proposed by them is adopted in Bengal.

WEATHER AND CROP REPORT.

For the week ending the 31st December 1900.

Burdwan.—Rainfall at Sadar 0·20, Kalna 0·21, Katwa nil, Raniganj 0·10. Weather cloudy. Harvesting of *aman* and pressing of Sugarcane going on. Fodder and water sufficient. Common rice selling as follows:—

				Srs.	
Sadar	12	} per rupee.
Kalna	...	...	...	11 $\frac{5}{16}$
Katwa	...	...	...	13
Raniganj	...	...	...	13 $\frac{1}{2}$

Birbhum.—No rain. Weather cloudy. Harvesting of *aman* continues. Standing crops doing well. Price of rice at Sadar 13 $\frac{1}{2}$ and at Rampur Hât 14 $\frac{1}{2}$ seers per rupee. Fodder sufficient.

Bankura.—Rainfall at Bankura 0·17, Vishnupur 0·48. Weather generally cloudy. Threshing going on. Sugarcane and *rabi* doing well. Fodder and water sufficient. No cattle-disease reported. Price of common rice at Bankura 13 $\frac{1}{2}$ seers and at Vishnupur 11 $\frac{1}{2}$ seers per rupee.

Midnapore.—Rainfall at Sadar 0·61, Contai 0·11, Tamluk 0·04, Ghatal 0·13. Fodder sufficient except at Contai. *Aman* being reaped. Common rice sells as follows:—

				Srs.	
Sadar	14	} per rupee.
Contai	...	...	...	15
Tamluk	...	...	...	13 $\frac{1}{2}$
Ghatal	...	...	...	10 $\frac{7}{8}$

Hooghly.—Rainfall at Sadar ·46, Serampore ·25, Arambagh ·33. Weather seasonable. Prospect of *rabi* good. Harvesting of *aman* nearly finished. Common rice sells at 10 seers 15 chitaks per rupee.

Howrah.—Rainfall at Sadar ·11, Ulubaria ·20. Harvesting of *aman* going on. Fodder and water sufficient. Common rice sells at 10 $\frac{1}{2}$ seers per rupee.

24-Parganas.—Rainfall 0·05. Weather seasonable. Standing crops doing tolerably well. *Rabi* crops growing. Harvesting of *aman* going on. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	10	} per rupee.
Barasat	...	...	...	10	
Basirhat	...	...	...	Report not received.	
Diamond Harbour	...	...	...	12 $\frac{5}{16}$	per rupee.

Nadia.—Rainfall at Sadar 0·01, Ranaghat 0·08. Weather seasonable. Drizzling in Sadar and Ranaghat. More rain is wanted for standing crops which are suffering from drought. Harvesting of *aman* and threshing of *dhan* continuing. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	Report not received.	
Kushtia	...	...	...	13 $\frac{1}{2}$	} per rupee.
Meherpur	...	...	...	12 $\frac{5}{16}$	
Chuadanga	...	...	...	12	
Ranaghat	...	...	...	10 $\frac{1}{2}$	

Murshidabad.—No rain. Weather seasonable and cloudy. Harvesting of *aman* still continues. *Kalai* is being harvested. Prospects of *rabi* crops unfavourable in parts; rain wanted. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	13	} per rupee.
Lalbagh	...	...	...	14
Kandi	...	...	...	15
Jangipur	...	...	...	15

Jessore.—Rainfall at Sadar 0·14. Weather seasonable. Prospects of standing crops not favourable. Harvesting of *aman* continues. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	14	per rupee.
Jhenida	...	...	...	Report	not received.
Magura	...	...	...	13½	} per rupee.
Narail	...	...	...	13⅙	
Bangaon	...	...	...	13⅙	

Khulna.—Rainfall nil. Weather seasonable. Harvesting of *aman* paddy continues. Prospects favourable. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	13¾	} per rupee.
Bagerhat	...	...	...	13⅙	
Satkhira	...	...	...	10½	

Rajshahi.—Weather seasonable. Prospects of standing crops fair. Harvesting of winter rice going on. Condition of cattle good. Fodder and water ample. Common rice selling at 14½ seers a rupee.

Dinajpur.—Rainfall nil. Weather seasonable. Harvesting of *aman* progressing. No cattle-disease. Fodder and water plentiful. Rice selling at Sadar 16 seers and at Thakurgaon 13 seers per rupee.

Jalpaiguri.—Rainfall nil. Weather seasonable. Harvesting of *haimanti* paddy going on. Condition of *rabi* crops satisfactory. Common rice sells at 13 seers a rupee. Fodder and water sufficient.

Darjeeling.—Rainfall at Darjeeling 0·25, Kurseong ·04, Siliguri ·4, Kalimpong nil. Weather seasonable. Days cloudy, nights cold and frosty. *Bara marua*, *aman dhan*, *kata* being harvested. *Phapor*, *tori*, wheat, barley progressing. *Terai*—*haimanti* paddy being harvested. Harvesting of potato, sugarcane finished. Tobacco, mustard progressing. Coarse rice sells as follows:—

				Srs.	
Hills	...	...	...	9	} per rupee.
Terai	...	...	...	14	

Bhutta sells at Darjeeling and Kalimpong 20 seers per rupee.

Rangpur.—Rainfall nil. Weather seasonable. Harvesting of *aman* going on. Fodder and water sufficient. Price of common rice stationary.

Bogra.—No rain. Harvesting of *aman* going on. *Rabi* sowings continue in places. Prospects moderate. Fodder and water sufficient. Common rice sells at 14 seers a rupee.

Pabna.—Rainfall nil. Weather seasonable. Harvesting of winter paddy nearly finished. *Rabi* crops likely to suffer through want of rains. Cattle-disease reported from Chatmohar. Prices stationary. Fodder and water sufficient.

Dacca.—Rainfall at Sadar nil, Narayanganj nil, Munshiganj nil, Manikganj ·02. Weather seasonable. Prospects of crops fair. No cattle-disease. Fodder available. Common rice 12 seers per rupee.

Mymensingh.—Rainfall nil. Weather cloudy during morning. Harvesting of *aman* paddy nearly finished. Transplantation of *boro* commenced. Fodder sufficient. Water available. Common rice sells as follows:—

				Srs.	
Sadar	10½	} per rupee.
Jamalpur	...	...	...	11½
Kishorganj	...	...	...	11½
Tangail	...	...	...	11
Netrakona	...	...	...	11⅙

Faridpur.—No rain. Weather seasonable. State and prospects of crops good. Common rice sells at 12½ seers a rupee.

Backergunge.—Rainfall nil. Weather seasonable. Prospect of crops good. Common rice sells at 10½ seers (old) *aman* and 12 seers (new).

Tippera.—No rain. Weather seasonable. Harvesting of *aman* nearly over. Reaping of *rabi* crops begun in places. Fodder and water available. Common rice averages 12 seers 7 chitaks.

Noakhali.—No rain. Weather seasonable. Harvesting of *aman* continues. Prospects good. Cattle-disease still prevails in Lakhipur. Fodder and water sufficient. Common rice sells at 15 seers *aus* and 13 seers *aman* per rupee.

Chittagong.—No rain. Prospect of *aman* crop not favourable owing to insufficient rain. Water and fodder sufficient. Common rice 12½ seers per rupee.

Patna.—Rainfall at Sadar 0·13, Bihar 0·04, Dinapore 0·13, Barh 0·20, Bikram 0·12. Harvesting of paddy almost completed. *Rabi* doing well. Poppy germinating. Pressing of sugarcane continues. No cattle-disease. Fodder and water for cattle sufficient. Common rice in Patna sells at 16 seers a rupee.

Gaya.—Rainfall at Sadar 0·72, Jahanabad 0·32, Aurangabad 0·34. Harvesting of paddy nearly over. *Rabi* doing well. Common rice sells at 13½ seers per rupee.

Shahabad.—Rainfall at Sadar 0·53, Buxar 0·65, Bhabhua 0·40, Sasaram 0·32, Dehri 0·32. Weather cold and cloudy. Rainfall of the week has done much good to *rabi*. Threshing of paddy and pressing of sugarcane going on. Fodder and water sufficient. Rice 12 seers a rupee at Sadar.

Saran.—Rainfall at Sadar 0·33, Siwan 0·35, Gopalganj 0·20. Weather seasonable but cloudy. Standing crops good. *Rabi* much benefited by rain. Poppy backward but good. Fodder and water sufficient. Common rice 15½ seers, *makai* 23 seers per rupee.

Champanan.—Rainfall at Sadar 0·35, Bettiah 0·16. Prospects of *rabi* and poppy good. Threshing of paddy going on. Prices of common rice and maize at Sadar are 15½ and 16½ seers per rupee, respectively.

Muzaffarpur.—Rainfall at Sadar 0·14, Hajipur not received. Sitamarhi 0·08. Prospects of crops excellent. Prices are—Common rice 14 seers, wheat 13 seers, barley 20 seers, maize 24 seers, gram 15 seers, *arhar* 14 seers, and *marua* 25 seers a rupee.

Darbhanga.—Rainfall at Sadar 0·09, Samastipur 0·03, Madhubani 0·23. Harvesting of paddy is almost over. *Rabi* doing well. Fodder and water sufficient. No cattle-disease reported. Common rice sells as follows :—

	Srs.
Sadar	16½
Samastipur	16
Madhubani	16½
	} per rupee.

Monghyr.—Rainfall at Begusarai 0·15. Weather cold and cloudy. Harvesting of paddy nearly completed. Prospect of standing crops good. Common rice sells as follows :—

	Srs.
Sadar	14½
Begusarai	15
Jamui	Report not received.
	} per rupee.

Bhagalpur.—Weather cold. Sky cloudy. Winter rice is being reaped. Sugarcane is being pressed. No cattle-disease. Fodder and water sufficient. Prices stationary.

Purnea.—Rainfall at Purnea 0·11, Kishanganj and Araria nil. Weather seasonable. Harvesting of *aghoni* rice still continues. Prospects of *rabi* crops good. No cattle-disease. Fodder and water sufficient. Common rice sells as follows :—

	Srs.
Sadar	16
Kishanganj	14
Araria	17
	} per rupee.

Malda.—Rainfall nil. Weather cold and occasionally cloudy. Harvesting of winter rice still going on. *Kalai* and mustard ripening. Other *rabi* crops doing well but rain water is much needed. Average price of rice stationary. Fodder and water sufficient.

Sonthal Parganas.—Weather cold and cloudy. Harvesting of winter rice crop still continues. State of standing *rabi* crops promising. Cattle-disease reported from Godda. Fodder and water-supply sufficient. Average price of rice 15 seers and that of maize 20 seers 10 chitaks per rupee.

Cuttack.—Rainfall at Kendrapara 0·03. Weather seasonable. Sugarcane and *gura* *arad* being harvested. *Rabi* in flowers and pods. *Dalua* and tobacco growing. Want of

rain felt in places. Condition of cattle good. Fodder and water sufficient. Common rice sells as follows :—

			Srs. ch.
Sadar	...	...	14 7
Jajpur	...	...	14 7
Kendrapara	...	...	17 1
Banki	...	...	Report not received.

} per rupee.

Balasore.—Rainfall nil. *Sarad* and *kandha* being out and threshed. *Dalua* growing well. Sugarcane cutting continues. *Rabi* crops are flowering. Cotton being gathered. Rice sells at $15\frac{1}{4}$, $14\frac{1}{4}$ and $16\frac{1}{2}$ seers per rupee in interior, Balasore and Bhadrak, respectively. Fodder and water sufficient.

Angul.—Rainfall nil. Weather cloudy. Harvesting of *til* and *rabi* crops and crushing of sugarcane continue. Common rice selling at 20 and $13\frac{1}{2}$ seers per rupee in the markets of Angul and Khondmals, respectively. Fodder and water sufficient.

Puri.—Rainfall nil. Weather seasonable. *Sarad* paddy being harvested. Sowing of *dalua* and *mung* is in progress. Pressing of sugarcane continues. Winter *mandia*, *kulthi* and other miscellaneous crops doing well. Fodder and water sufficient. Price of rice stationary.

Hazaribagh.—Rainfall at Sadar 90, Giridih 13. Weather cold and cloudy. Fodder and water sufficient. Common rice sells at Sadar 14 to 15 seers and at Giridih $14\frac{1}{2}$ seers per rupee.

Ranchi.—Rainfall 0.38. Weather cold and cloudy. Prospects of *rabi* crops much improved by rainfall during the week. Rice sells at Sadar 17 seers per rupee. No Cattle-disease reported. Fodder and water sufficient.

Palaman.—Rainfall 1.56. Weather cloudy. *Rabi* progressing well. Cattle-disease continues in places. Rice selling at Sadar 12 seers 6 chitaks per rupee.

Manbhum.—Rainfall at Sadar 0.26, Gobindpur 0.05. Weather cloudy. Prospects of crops on ground good. Fodder and water sufficient. Cattle-disease reported from Jhawda, Topchanchi and Katras. Average price of common rice at Sadar 14 seers 6 chitaks and at Gobindpur 13 seers per rupee. Supply sufficient.

Singhbhum.—Rainfall .26. *Rabi* crops doing well. Average price of rice is 17 seers 1 chitak in the district; at Chaibassa 16 seers.

General Summary.—There was some rain during the week almost in all districts of the Burdwan Division, Bihar and Chota Nagpur, as well as in Nadia, Jessore, Darjeeling, Dacca, and Cuttack. The rain has been beneficial to the *rabi* crops in Bihar. More rain is, however, needed in Nadia and Cuttack. It is also badly wanted in Murshidabad, Pabna and Malda. The harvesting of winter rice is being completed. *Rabi* crops are generally in good condition except in Murshidabad. In Bihar the poppy crop is doing well. The pressing of sugarcane is in progress. Cattle-disease reported from five districts. Fodder generally sufficient. The price of common rice has fallen in 11 districts, risen in 14, and is stationary in the rest (21).

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,

Secretary to the Govt. of Bengal.

REVENUE DEPARTMENT,

The 1st January 1901.

Results of the Meteorological Observations taken at the Alipore Observatory from
23rd to 29th December 1900.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1900.				Inches.	°	°	°	°	°	Inch.	°	%			Inches.	
Dec.	23rd	129.8	8.6	30.095	66.0	79.1	22.7	56.4	60.6	0.459	56.6	74	N by W and NNW	85	Nil	Chiefly clear, <i>D</i> .
"	24th	129.8	8.9	.048	67.4	80.0	22.8	57.2	61.3	.465	56.8	72	N by W, N and calm.	58	"	Chiefly clear.
"	25th	132.6	6.4	.036	66.3	80.0	23.0	57.0	61.6	.488	53.2	78	NNW and calm...	42	"	Partially cloudy, <i>D</i> .
"	26th	131.3	6.0	.019	67.5	80.6	22.5	58.1	63.1	.524	60.2	80	NNW, SW and calm.	54	"	Partially cloudy, <i>D</i> .
"	27th	125.2	5.5	.031	70.9	79.1	15.2	63.9	66.1	.578	63.0	77	SSE, N and W by N.	50	"	Chiefly cloudy, <i>c</i> .
"	28th	126.5	0.4	.025	69.2	76.0	11.8	64.2	65.9	.594	63.8	83	SSE, NNW and variable.	84	0.05	Chiefly cloudy, <i>c</i> , <i>d</i> .
"	29th	125.3	7.9	.041	69.8	78.0	14.8	63.2	63.3	.496	68.7	68	N, NNW and NE	77	Nil	Partially cloudy.

The mean pressure of the seven days Inches. 30.042

The average pressure of the corresponding period for 24 years, Surveyor-General's Office 30.037

The total number of hours of bright sunshine Hours. 43.7

The maximum possible number of hours of sunshine 75.0

The mean temperature of the seven days ° 68.2

The average temperature of the corresponding period for 24 years, Surveyor-General's Office 67.1

The extreme variation of temperature 24.2

The maximum temperature 80.6

The highest velocity of the wind in one hour Miles. 2

The mean relative humidity % 76

The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office 71

The total fall of rain from 23rd to 29th December 1900 Inches. 0.05

The average fall of the corresponding period for 24 years, Surveyor-General's Office 0.01

The total fall from 1st January to 29th December 1900 89.32

The average fall of the corresponding period for 24 years, Surveyor-General's Office 65.24

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from eye observations.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

D, dew; *f*, fog; *o*, overcast; *d*, drizzling rain.

METEOROLOGICAL OFFICE, GOVT. OF INDIA,

Alipore (Calcutta), the 31st December 1900.

G. W. KÜCHLER,

For Meteorological Reporter to the Govt. of India
and Director-General of Indian Observatories.

BENGAL-NAGPUR RAILWAY.

Abstract of Principal Commodities carried during the month of June 1900 as compared with the corresponding period of the previous year.

ARTICLES.	1900.		1899.		Total, 1900.	Total, 1899.	Increase.	Decrease.
	Up.	Down.	Up.	Down.				
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
I.—Apparel, including drapery, haberdashery, millinery, uniforms, accoutrements, boots and shoes.	12	9	.....	.....	21	.....	21	.....
II.—Coal and coke carried for the public and foreign railways.	30,535	48,979	13,865	44,377	79,514	58,242	21,272	.....
III.—Cotton—								
1. Raw	1,021	421	460	768	1,442	1,228	214	.....
2. Manufactured—								
(a) Twist and yarn, European	124	134	12	76	258	88	170	.....
(b) Ditto, Indian	321	313	90	685	634	775	.....	141
(c) Piece-goods, European	64	58	62	16	113	78	34	.....
(d) Ditto, Indian	167	145	35	170	312	205	107	.....
(e) Others	16	22	.....	.....	38	.....	38	.....
IV.—Chemicals excepting saltpetre	12	16	.....	.....	28	.....	28	.....
V.—Drugs—								
1. Intoxicating, other than opium.	3	4	5	1	7	6	1	.....
2. Non-intoxicating—								
(a) Medicinal preparations	2	1	.....	.....	3	.....	3	.....
(b) Others	28	12	12	18	40	30	10	.....
VI.—Dyes and Tans—								
1. Al (morinda citrifolia)	.....	2	.....	1	.....	3	.....	.....
2. Alizarine and aniline dyes	.....	.....	2	.....	6	.....	.....	.....
3. Cutch	20	16	5	5	36	10	26	.....
4. Indigo	.....	4	1	1	12	2	10	.....
5. Myrabolams	1,856	769	325	160	2,625	485	2,140	.....
6. Tanning barks	.....	1	.....	.....	2	.....	2	.....
7. Turmeric	83	58	75	35	141	110	31	.....
8. Others	35	25	40	29	60	69	.....	9
VII.—Fodder—								
1. Oilcake	12	15	.....	.....	27	.....	27	.....
2. Hay, straw and grass	3,013	102	.....	.....	3,115	.....	3,115	.....
VIII.—Fruits and vegetables, fresh	2,898	120	.....	.....	3,018	.....	3,018	.....
IX.—Grain and Pulse—								
1. Gram and pulse	13,214	1,932	1,785	713	15,146	2,408	12,648	.....
2. Jowar and bajra	54	21	.....	10	75	10	65	.....
3. Rice in the husk	5,923	190	2	45	6,113	47	6,066	.....
4. " not in the husk	32,612	6,092	6,275	1,911	38,704	8,186	30,518	.....
5. Wheat	2,813	294	3,805	402	3,107	4,207	.....	1,100
6. " flour	145	59	.....	.....	204	.....	204	.....
7. Others	1,632	140	335	112	1,772	447	1,325	.....
X.—Hides and skins—								
1. Hides of cattle—								
(a) Dressed or tanned	.....	.....	.....	.....	.....	.....	.....	.....
(b) Raw	89	1,164	75	590	1,253	665	588	.....
2. Skins of sheep and other animals—								
(a) Dressed or tanned	.....	.....	.....	.....	.....	.....	.....	.....
(b) Raw	10	18	2	3	28	5	23	.....
XI.—Horns	8	12	36	19	20	56	.....	36
XII.—Hemp (Indian) and other fibres, excluding jute.	13	684	1	1	697	2	695	.....
XIII.—Jute—								
1. Raw	4	6	1	1	10	2	8	.....
2. Gunny-bags and cloth	214	336	135	110	550	245	305	.....
XIV.—Lac	124	840	86	929	904	1,015	.....	51
XV.—Leather—								
1. Unwrought	2	4	20	9	6	29	.....	23
2. Wrought excepting boots and shoes.	10	7	.....	.....	17	.....	17	.....
XVI.—Liquors—								
1. Ale and beer	33	54	10	57	87	67	20	.....
2. Spirits of all kinds, including country spirit.	18	9	8	11	27	19	8	.....
3. Wines	113	42	14	9	155	23	132	.....
4. All other sorts, including toddy and fermented liquors, other than ale and beer.	.....	.....	.....	.....	.....	.....	.....	.....
XVII.—Metals—								
1. Brass, unwrought	2	1	1	1	3	2	1	.....
2. " wrought	153	62	11	20	215	31	184	.....
3. Copper, unwrought	1	.....	1	1	1	2	.....	1
4. " wrought	5	6	8	13	11	21	.....	10
5. Iron and steel—								
(a) Cast	48	11	1	2	59	3	56	.....
(b) Unwrought	28	50	.....	65	78	65	13	.....
(c) Wrought	645	329	90	142	974	233	742	.....
(d) Manufactures	228	80	71	73	338	144	194	.....
6. Others	54	23	12	32	77	44	33	.....
XVIII.—Oils—								
1. Kerosine	325	164	395	251	489	646	.....	157
2. Castor	14	11	12	44	25	56	.....	31
3. Coconut	10	12	14	24	22	38	.....	16
4. Mustard and rape	25	22	10	1	47	11	36	.....
5. Others	95	71	28	44	166	72	94	.....

ARTICLES.	1900.		1899.		Total, 1900.	Total, 1899.	Increase.	Decrease.
	Up.	Down.	Up.	Down.				
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
XIX.—Oilseed—								
1. Castor	67	7	50	125	74	175	.....	101
2. Earthnuts	17	13	1	2	30	3	.....	27
3. Linseed	245	69	970	341	314	1,311	.....	997
4. Poppy	6	3	17	1	9	18	.....	9
5. Rape and mustard	12	52	51	209	64	260	.....	196
6. Til or jinjili	521	51	285	410	572	695	.....	123
7. Others	48	513	8	23	561	31	.....	530
XX.—Opium	1	.....	.....	.....	1	.....	.....	1
XXI.—Paper and pasteboard	67	47	36	2	114	38	.....	76
XXII.—Provisions—								
1. Dried fruits and nuts	41	20	225	104	61	329	.....	268
2. Ghee	7	12	15	203	19	218	.....	199
3. Others	12	302	270	154	314	424	.....	110
XXIII.—Railway plant and rolling-stock carried for the public and foreign railways—								
1. Locomotive engines and tenders and parts thereof.	18	12	87	5	30	92	.....	62
2. Carriages and trucks and parts thereof.	3	2	.....	.....	5	.....	.....	5
3. Materials—								
(a) Steel rails and fish-plates.	25	6	.....	.....	31	.....	.....	31
(b) Sleepers and keys of steel and cast-iron.	.....	.....	.....	.....	.....	.....	.....	.....
(c) Others	846	3,122	376	4,294	3,967	4,670	.....	703
XXI.—Salt	3,248	2,063	1,640	5,458	5,311	7,098	.....	1,787
XX.—Salt-petre and other saline substances—								
1. Salt-petre	14	6	2	2	20	4	.....	16
2. Other saline substances	32	18	45	35	50	80	.....	30
XXVI.—Silk—								
1. Raw—								
(a) Foreign ... ..	.....	.....	.....	.....	.....	.....	.....	.....
(b) Indian	42	40	7	4	91	11	.....	80
2. Piece-goods—								
(a) Foreign ... ..	.....	.....	.....	.....	.....	.....	.....	.....
(b) Indian ... ..	.....	.....	1	1	.....	2	.....	2
XXVII.—Spices—								
1. Betel-nuts	123	31	87	25	153	112	.....	41
2. Cardamoms	6	3	1	1	9	2	.....	7
3. Chillies	18	177	7	145	195	152	.....	43
4. Ginger	4	3	2	2	7	4	.....	3
5. Pepper	8	6	4	1	14	5	.....	9
6. Others	31	51	89	96	82	185	.....	103
XX.—Stone and lime	113	1,128	105	759	1,241	864	.....	377
X.—Sugar—								
1. Refined or crystallized, including sugarcandy.	146	132	170	164	278	334	.....	56
2. Unrefined—								
(a) Sugar ... ..	.....	.....	.....	.....	.....	.....	.....	.....
(b) Gur, rab, molasses, jag-gery and other saccharine produce.	211	13	221	49	224	270	.....	46
X.—a—								
Foreign ... ..	.....	.....	.....	.....	.....	.....	.....	.....
India	3	1	5	25	4	30	.....	26
XXX.—Wool—								
Unmanufactured	232	100	138	243	341	381	.....	40
Manufactured—								
(a) Cigars	5	3	1	1	8	2	.....	6
(b) Other sorts	25	15	22	21	40	43	.....	3
XXXII.—Wood—								
1. Timber, unwrought	1,132	700	805	2,136	1,841	2,941	.....	1,100
2. Manufactured	842	155	.....	.....	997	.....	.....	997
XXXIII.—Wool—								
1. Raw	1	1	1	2	2	3	.....	1
2. Manufactured	5	3	.....	.....	8	.....	.....	8
(a) Carpets and rugs	3	1	1	1	4	2	.....	2
(b) Piece-goods, European ... ..	.....	.....	1	1	1	2	.....	1
(c) Ditto, Indian	5	3	1	1	8	2	.....	6
(d) Other sorts of manufactures.	1	1	.....	.....	2	.....	.....	2
XXXIV.—All other articles of merchandise—								
1. Firewood	61	219	1,228	1,375	310	2,603	.....	2,293
2. Bamboos	228	507	739	359	735	1,098	.....	363
3. Moha	948	1,638	508	158	1,986	666	.....	1,320
4. Others	323	762	1,676	1,769	1,085	3,445	.....	2,360
Total	1,08,693	75,411	38,131	70,694	184,104	108,825	87,832	12,553
Net ...							75,279	.....

Calcutta, the 12th December 1900.

L. GREENHAM,
For Auditor, B.-N. Railway.

Weekly Return of Traffic Receipts on Indian Railways.

EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 8th December 1900, on 1,837.09 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P. (a)	Mds. S.	Rs. A. P. (b)	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	327,833	3,73,480 0 0	52,92,387 30	9,74,167 14 0	20,787 0 0	13,68,434 14 0	103,350	192,332	295,682
Or per mile of railway ...	.....	203 4 10	.....	530 4 5	11 5 0	744 14 3	.....	.....	.....
For previous 22 weeks of half-year ...	7,839,268*	85,32,415 9 0*	10,50,51,954 20†	1,86,10,631 15 0†	4,66,727 0 0‡	2,76,00,774 8 0	2,366,363§	3,924,440§	6,290,803‡
Total for 23 weeks ...	8,167,101	89,05,895 9 0	11,03,44,342 10	1,95,84,799 13 0	4,87,514 0 0	2,89,78,209 6 0	2,469,713	4,116,781	6,586,494
COMPARISON.									
Total for corresponding week of previous year ...	399,129	3,90,365 5 3	48,99,960 10	10,76,511 7 9	34,480 12 3	15,01,657 9 3	106,514‡	191,864‡	298,408‡
Per mile of railway corresponding week of previous year ...	.....	228 3 1	.....	629 7 6	20 2 6	877 13 1	.....	.....	.....
Total for corresponding 23 weeks of previous year ...	7,427,362	79,42,604 12 4	10,35,16,009 0	1,96,98,212 5 4	5,99,806 3 5	2,82,40,623 5 1	2,230,322‡	4,089,431‡	6,319,803‡

(a) The decrease is due to the running in the corresponding period of 1899 of two extra troop trains from Dockyard to Umballa Cantonment.

(b) The decrease is chiefly due to heavier upward despatches of food-grains in the corresponding period of 1899.

* Added No. of passengers 46,434 and deducted Rs. 351. On account of difference between the approximate and audited figures for the weeks ended

† Do. Mds. 3,89,182 and " 14,228. 27th October and 3rd November 1900.

‡ Do. " 1,453. Audited figures up to 3rd November 1900.

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1,836.15	Week ended 7th July...	420,095	4,08,652	47,00,058	9,26,211	21,864	14,16,727	772	208,408	Rs. A. P.
1,836.15	" " 14th " ...	389,035	3,75,990	49,03,181	9,21,659	22,241	13,19,896	719	207,447	4 9 6
1,837.09	" " 21st " ...	337,210	3,53,782	47,94,842	8,85,140	19,504	12,58,426	685	207,611	4 7 0
1,837.09	" " 28th " ...	344,710	3,46,133	56,89,389	9,27,060	19,376	12,92,569	704	204,900	4 3 0
1,837.09	" " 4th Aug. ...	362,321	4,51,735	45,19,233	8,21,084	18,857	12,92,576	704	200,400	4 0 1
1,837.09	" " 11th " ...	367,079	4,02,927	49,65,767	8,32,702	21,165	12,56,854	684	203,400	4 7 3
1,837.09	" " 18th " ...	344,267	3,69,027	44,25,729	7,51,000	19,220	11,39,247	620	206,300	4 4 6
1,837.09	" " 25th " ...	393,975	3,33,103	46,60,273	7,62,296	24,415	11,19,734	610	276,000	3 5 1
1,837.09	" " 1st Sept. ...	334,175	4,00,793	46,34,078	7,83,339	21,048	12,07,189	657	277,000	4 0 5
1,837.09	" " 8th " ...	410,042	4,27,736	47,53,338	8,08,900	21,655	12,57,481	684	291,603	4 5 5
1,837.09	" " 15th " ...	390,111	3,68,045	47,41,478	7,94,851	15,929	11,78,825	642	282,731	4 2 9
1,837.09	" " 22nd " ...	308,288	3,24,581	38,32,084	6,03,622	17,806	9,40,009	515	274,000	3 7 3
1,837.09	" " 29th " ...	372,829	3,99,337	40,33,663	6,62,892	22,351	10,84,680	590	280,000	4 3 2
1,837.09	" " 6th Oct. ...	353,442	3,82,638	35,49,093	6,70,859	19,325	10,72,822	584	280,406	4 0 4
1,837.09	" " 13th " ...	339,354	3,69,351	44,64,178	7,86,798	10,104	11,75,343	640	274,726	4 1 1
1,837.09	" " 20th " ...	344,107	3,96,586	56,29,974	10,06,956	22,854	14,26,396	776	281,600	4 8 2
1,837.09	" " 27th " ...	330,704	3,45,070	45,02,069	8,51,466	22,494	12,19,050	664	270,000	4 2 2
1,837.09	" " 3rd Nov. ...	368,111	4,22,057	54,78,546	9,64,942	21,118	14,08,117	766	300,000	4 11 0
1,837.09	" " 10th " ...	401,576	4,19,329	51,89,569	9,54,950	24,819	13,99,098	762	300,240	5 0 1
1,837.09	" " 17th " ...	352,805	3,99,559	52,31,843	8,77,042	24,263	14,00,864	763	279,583	4 13 7
1,837.09	" " 24th " ...	348,991	4,07,940	50,23,794	9,47,180	24,010	13,79,130	751	288,910	4 11 8
1,837.09	" " 1st Dec. ...	332,150	3,68,038	52,40,355	9,67,603	23,219	13,58,860	740	291,500	4 12 9
1,837.09	" " 8th " ...	327,833	3,73,480	52,92,387	9,74,168	20,787	13,68,435	745	283,280	4 10 1
Totals up to date ...		8,167,101	89,05,895	11,03,44,342	1,95,84,800	4,87,514	2,89,78,209	686	6,586,494	4 6 5

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1,710.67	8 days of July	420,807	4,54,371	45,59,139	8,06,069	16,693	12,77,124	747	307,818	4 2 5
1,710.67	Week ended 15th July ...	363,619	3,51,956	42,17,629	6,87,306	13,140	10,52,402	615	254,918	4 2 1
1,710.67	" " 22nd " ...	346,546	3,37,012	35,12,074	6,08,241	13,085	9,65,338	600	256,002	4 1 0
1,710.67	" " 29th " ...	305,690	3,05,465	34,23,200	5,78,387	12,912	8,96,754	524	235,622	3 12 11
1,710.67	" " 5th Aug. ...	398,202	3,31,852	39,50,345	6,39,140	14,859	9,85,851	576	243,941	4 0 8
1,710.67	" " 12th " ...	313,033	2,91,982	37,29,186	6,43,691	13,916	9,49,559	555	244,678	3 14 1
Adjustments on account of previous period.										
1,710.67	" " 19th Aug. ...	306,070	2,91,935	39,39,581	6,57,599	43,832†	2,15,963	.....	.....	.....
1,710.67	" " 26th " ...	313,596	2,78,251	41,21,008	6,89,028	24,138	9,72,295	568	243,174	4 0 0
1,710.67	" " 2nd Sept. ...	289,209	2,76,502	48,51,418	7,70,919	21,518	9,91,417	580	249,401	3 15 7
1,710.67	" " 9th " ...	291,074	2,67,986	46,73,914	8,16,066	21,518	10,08,939	625	254,879	4 3 1
1,710.67	" " 16th " ...	316,412	3,31,326	44,47,786	8,50,448	25,599	11,09,641	647	264,104	4 3 1
1,710.67	" " 23rd " ...	346,177	3,74,256	43,67,570	9,12,071	25,571	12,04,042	704	277,838	4 5 4
1,710.67	" " 30th " ...	326,546	3,33,116	52,82,751	9,51,508	19,896	13,09,129	765	286,475	4 9 1
1,710.67	" " 7th Oct. ...	337,448	3,64,039	46,70,178	9,56,735	29,452	13,04,430	763	286,128	4 8 11
1,710.67	" " 14th " ...	331,368	3,52,629	47,36,397	8,89,685	31,059	13,50,226	789	298,389	4 8 5
1,710.67	" " 21st " ...	293,404	3,42,679	46,09,587	9,03,951	24,068	12,79,698	743	282,407	4 7 8
1,710.67	" " 28th " ...	305,345	3,83,081	53,31,358	10,99,143	32,810	14,25,034	833	297,361	4 12 8
1,710.67	" " 4th Nov. ...	279,671	3,61,809	44,38,427	9,92,570	27,227	13,88,066	812	290,268	4 10 3
1,710.67	" " 11th " ...	326,829	3,85,433	44,35,003	9,38,299	59,735	13,54,377	792	295,740	4 11 4
1,710.67	" " 18th " ...	341,046	3,63,256	46,89,489	9,99,174	55,811	13,98,241	817	295,780	4 11 0
1,710.67	" " 25th " ...	338,813	4,06,248	54,44,857	10,84,560	39,645	15,27,453	893	292,144	5 3 8
1,710.67	" " 2nd Dec. ...	311,474	3,07,005	49,40,103	10,59,813	31,193	14,58,011	852	282,335	5 2 8
1,710.67	" " 9th " ...	309,129	3,90,366	48,99,960	10,76,511	34,480	15,01,657	878	298,409	5 0 6
Totals up to date ...		7,427,362	79,42,605	10,35,16,009	1,96,98,212	5,99,806	2,82,40,623	713	6,319,806	4 7 7

* Audited figures.

† Rs. 1,70,137—Added on account of rebate on coal deducted from returns from 1st July to 12th August 1899.

‡ Rs. 45,826— Ditto ditto of mileage and demurrage not having been included in returns from 1st July to 12th August 1899.

Approximate Return of Traffic for week ended 8th December 1900, on 22.23 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	MDS. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	13,030	4,778 6 0	41,773 30	929 6 6	7 0 0	5,714 12 0	1,017	171	1,188
Or per mile of railway ... ..	...	214 15 3	.....	41 12 11	0 5 0	237 1 2	.....	.....	.....
For previous 22 weeks of half-year	459,413*	1,07,254 4 0*	4,50,040 0†	14,888 3 0†	168 0 0†	1,22,310 7 0	23,450‡	2,570§	26,020
Total for 23 weeks	478,503	1,12,032 10 0	4,91,822 30	15,817 9 0	175 0 0	1,28,025 3 0	24,467	2,741	27,208
COMPARISON.									
Total for corresponding week of previous year	18,002	4,398 1 5	41,430 0	655 11 0	5 2 9	5,058 15 2	1,054	380	1,434
Per mile of railway corresponding week of previous year ... ..	.....	197 13 6	.....	30 13 6	0 3 9	228 14 9	.....	.....	...
Total for corresponding 23 weeks of previous year	449,943	1,06,520 4 0	4,75,348 10	13,078 12 0	188 14 3	1,19,787 14 3	24,908	4,035	28,943

* Added	of passengers 2,418 and	Rs. 265	} On account of difference between the approximate and audited figures for the weeks ended 27th October and 3rd November 1960.
† Deduct	Mds. 50,727 and	" 438	
‡ Ditto		" 4	
§ Audited	figures up to 3rd November 1960.		

1st 100.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
22-23*	Week ended 7th July	20,128	6,630	0,631	399		7,045	317	1,188	
22-23*	" " 14th "	32,489	7,452	12,537	459	7	7,918	356	1,290	
22-23*	" " 21st "	19,929	4,805	0,946	441	10	5,256	236	1,188	
22-23*	" " 28th "	19,106	4,520	19,915	492	10	5,022	226	1,188	
22-23*	" " 4th Aug.	18,771	4,516	8,298	543	5	4,864	219	1,188	
22-23*	" " 11th "	19,867	4,760	19,074	428	6	5,194	234	1,188	
22-23*	" " 18th "	15,943	3,513	6,796	286	4	3,803	171	1,188	
22-23*	" " 25th "	15,357	3,269	8,188	575	11	3,655	164	1,188	
22-23*	" " 1st Sept.	16,775	3,614	8,748	350	6	3,970	179	1,188	
22-23*	" " 8th "	18,791	4,430	6,923	275	7	4,712	212	1,188	
22-23*	" " 15th "	22,070	4,740	3,348	306	7	5,113	230	1,188	
22-23*	" " 22nd "	12,457	2,832	4,644	214	11	3,057	138	1,188	
22-23*	" " 29th "	17,721	4,204	10,008	429	7	4,640	200	1,228	
22-23*	" " 6th Oct.	21,126	4,989	18,047	734	8	5,730	258	1,012	
22-23*	" " 13th "	20,780	4,898	20,136	865	10	5,773	260	1,100	
22-23*	" " 20th "	21,125	4,966	33,127	1,061	10	6,637	299	1,188	
22-23*	" " 27th "	21,580	5,193	23,530	1,007	4	6,204	279	1,188	
22-23*	" " 3rd Nov.	25,030	5,974	25,286	1,098	8	7,080	318	1,188	
22-23	" " 10th "	27,304	6,828	47,129	1,168	8	8,004	360	1,188	
22-23	" " 17th "	22,029	5,181	49,794	1,160	7	6,338	285	1,188	
22-23	" " 24th "	21,688	5,102	51,467	1,353	7	6,462	301	1,188	
22-23	" " 1st Dec.	19,844	4,831	48,483	995	8	5,834	262	1,188	
22-23	" " 8th "	19,690	4,778	41,774	929	7	5,714	267	1,188	
Totals up to date		478,503	1,12,033	4,91,823	15,817	175	1,28,025	250	27,208	4 11

* Audited figures.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
22-23	8 days of July	24,245	6,025	8,040	322	13	6,360	286	1,437	4 6 10
22-23	Week ended 15th July	21,805	4,702	47,285	448	16	5,256	236	1,292	4 1 10
22-23	" " 22nd "	23,415	5,142	13,329	348	7	5,497	247	1,188	4 10 0
22-23	" " 29th "	17,231	3,874	8,001	915	6	4,795	210	1,241	3 13 10
22-23	" " 5th Aug.	16,072	3,760	9,320	387	12	4,158	187	1,188	3 5 0
22-23	" " 12th "	17,387	3,969	8,681	401	4	4,374	197	1,188	3 10 10
22-23	" " 19th "	17,248	4,135	10,614	347	9	4,491	202	1,188	3 12 0
22-23	" " 26th "	16,265	3,698	7,169	324	5	4,025	181	1,188	3 6 3
22-23	" " 2nd Sept.	14,719	3,562	9,490	376	11	3,979	179	1,188	3 5 3
22-23	" " 9th "	18,830	4,305	10,231	428	7	4,830	217	1,188	4 1 0
22-23	" " 16th "	18,864	4,195	9,382	363	9	4,597	207	1,258	3 16 0
22-23	" " 23rd "	16,051	3,809	17,189	446	5	4,260	192	1,188	3 9 4
22-23	" " 30th "	18,764	4,317	16,331	553	9	4,879	219	1,199	4 1 10
22-23	" " 7th Oct.	19,719	4,791	12,176	582	9	5,382	242	1,188	4 8 0
22-23	" " 14th "	23,440	6,173	9,979	423	16	6,611	297	1,034	6 6 3
22-23	" " 21st "	18,666	4,533	6,616	291	6	4,830	217	1,034	4 10 8
22-23	" " 28th "	20,007	4,950	15,694	727	6	5,083	266	1,188	4 12 6
22-23	" " 4th Nov.	20,210	4,735	14,393	808	3	5,546	249	1,426	3 12 10
22-23	" " 11th "	23,496	5,604	17,402	777	5	6,446	290	1,524	4 3 3
22-23	" " 18th "	23,533	5,773	91,735	1,277	10	7,060	318	1,267	5 9 2
22-23	" " 25th "	22,285	5,392	49,865	963	10	6,365	286	1,410	4 8 3
22-23	" " 2nd Dec.	18,740	4,411	34,387	857	6	5,274	37	1,447	3 10 4
22-23	" " 9th "	18,092	4,395	41,430	696	5	5,089	229	1,464	3 7 7
Totals up to date		440,943	1,06,520	4,75,346	13,079	189	1,19,788	253	28,943	4 2 3

DELHI-UMBALLA-KALKA RAILWAY.

Approximate Return of Traffic for week ended 8th December 1900, on 162.24 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	16,470	16,632 4 0	1,37,242 20	12,155 5 0	62 0 0	28,849 9 0	7,080	3,094	10,174
Or per mile of railway ...	.....	102 8 3	.....	74 14 9	0 6 1	177 13 1	.....	.....	.....
For previous 23 weeks of half-year	337,977*	3,33,174 2 0*	31,95,905 10†	2,08,159 6 0†	1,078 0 0‡	5,43,911 8 0	161,566§	75,091§	236,657
Total for 23 weeks ...	354,447	3,40,806 6 0	33,33,237 30	2,20,314 11 0	1,740 0 0	5,71,861 1 0	168,646	78,185	246,831
COMPARISON.									
Total for corresponding week of previous year ...	16,937‡	19,187 8 10	67,045 20	10,799 13 0	62 0 9	30,049 6 7	7,776	2,922	10,698
Per mile of railway corresponding week of previous year ...	.....	118 4 3	.....	66 9 1	6 1	185 3 5	.....	.....	.....
Total for corresponding 23½ weeks of previous year ...	391,530	3,95,988 4 7	21,21,138 30	2,82,457 3 6	1,523 9 6	6,77,969 1 7	171,253	78,723‡	249,976‡

(a) The decrease is due to the running in the corresponding period of 1899 of two extra troop trains from Dockyard to Umballa Cantonment.
 * Added number of passengers 25 and deducted Rs. 3,647 (On account of difference between the approximate and audited figures for the week ended 27th October and 3rd November 1900.
 † Deducted Mds. 11,403 and " 1,658
 ‡ Added " 91
 § Audited figures up to 3rd November 1900.

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1899-24	Week ended 7th July	19,338	21,176	88,170	11,150	84	32,410	200	11,976	2 11 4
1899-24	" " 14th "	20,290	20,632	98,459	10,400	68	31,100	192	12,904	2 6 7
1899-24	" " 21st "	11,952	10,284	46,874	4,954	70	15,278	94	9,672	2 9 3
1899-24	" " 28th "	12,806	9,553	2,08,023	6,865	83	16,501	102	9,117	2 12 9
1899-24	" " 4th August	14,501	10,672	44,541	3,454	91	14,217	88	9,035	1 9 3
1899-24	" " 11th "	12,967	9,444	3,03,861	8,843	42	18,329	113	10,442	1 11 11
1899-24	" " 18th "	13,755	10,372	1,27,427	4,870	84	15,326	94	9,297	1 10 5
1899-24	" " 25th "	13,442	8,800	2,44,893	5,724	63	14,287	88	8,836	1 9 10
1899-24	" " 1st Sept.	13,446	9,284	3,60,569	5,845	89	15,188	94	9,114	1 10 3
1899-24	" " 8th "	14,627	12,960	1,69,245	7,109	118	20,187	124	11,999	1 13 1
1899-24	" " 15th "	13,196	14,566	1,79,383	8,322	75	23,163	143	12,232	1 14 4
1899-24	" " 22nd "	12,630	12,092	49,757	6,069	56	18,757	116	11,225	1 10 9
1899-24	" " 29th "	15,352	18,265	56,264	9,307	77	27,649	170	11,457	2 6 7
1899-24	" " 6th Oct.	14,932	16,130	78,602	10,514	56	26,700	165	11,452	2 5 4
1899-24	" " 13th "	17,012	18,437	2,51,171	11,816	74	30,327	187	14,028	2 12 0
1899-24	" " 20th "	16,073	17,011	84,049	12,190	101	29,302	181	14,234	2 9 9
1899-24	" " 27th "	14,178	16,694	74,656	12,041	83	28,728	177	11,080	2 9 0
1899-24	" " 3rd Nov.	18,765	22,160	1,47,314	12,868	136	35,164	217	22,196	2 14 3
1899-24	" " 10th "	19,133	22,779	1,43,637	14,024	64	37,467	231	11,290	3 5 1
1899-24	" " 17th "	16,357	17,046	1,57,524	16,117	65	33,228	205	11,432	2 14 6
1899-24	" " 24th "	17,000	18,853	1,39,985	12,412	66	31,331	193	10,416	3 0 2
1899-24	" " 1st Dec.	16,328	16,384	1,40,991	11,925	63	28,372	175	10,012	2 13 4
1899-24	" " 8th "	16,470	16,632	1,37,243	12,156	62	28,850	178	10,174	2 13 4
Totals up to date		354,447	3,40,806	33,33,238	2,20,316	1,740	5,71,861	153	246,831	2 5 1

* Audited figures.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1899-24	8 days of July	23,211	19,776	72,881	9,176	95	29,047	179	11,955	2 6 11
1899-24	Week ended 15th July	20,339	17,554	61,713	8,858	60	26,472	163	9,963	2 10 7
1899-24	" " 22nd "	18,720	15,146	54,224	7,189	48	22,383	138	10,214	2 3 1
1899-24	" " 29th "	18,629	13,788	63,995	10,569	70	24,427	151	10,117	2 6 8
1899-24	" " 5th August	17,308	13,675	94,248	9,742	63	23,480	145	9,757	2 6 6
1899-24	" " 12th "	16,675	13,507	76,869	10,592	46	24,145	140	9,935	2 6 11
1899-24	" " 19th "	17,407	14,744	76,677	10,932	63	24,739	152	10,352	2 6 3
1899-24	" " 26th "	16,287	14,458	1,14,725	18,659	96	33,213	205	10,348	3 3 4
1899-24	" " 2nd Sept.	14,582	12,563	1,25,170	16,043	59	28,665	177	10,714	2 10 10
1899-24	" " 9th "	16,099	13,747	1,01,258	10,945	79	23,871	147	11,318	2 1 9
1899-24	" " 16th "	15,810	17,033	1,40,432	16,320	112	35,465	219	12,132	2 14 9
1899-24	" " 23rd "	16,506	22,374	1,07,670	12,156	73	37,603	232	13,723	2 11 10
1899-24	" " 30th "	15,314	18,025	77,745	10,921	45	29,491	182	10,686	2 12 2
1899-24	" " 7th Oct.	18,405	18,799	89,855	14,372	95	30,266	187	10,383	2 14 8
1899-24	" " 14th "	15,977	17,307	84,986	12,931	56	30,294	187	10,139	2 15 10
1899-24	" " 21st "	16,936	16,716	75,799	12,057	60	28,832	177	9,924	2 14 6
1899-24	" " 28th "	16,329	19,907	89,880	14,307	71	34,285	211	10,774	3 2 11
1899-24	" " 4th Nov.	15,630	22,053	1,04,064	16,701	59	37,813	233	11,397	3 5 1
1899-24	" " 11th "	17,959	20,645	86,855	13,003	65	33,713	208	11,840	2 13 7
1899-24	" " 18th "	16,096	16,012	95,343	12,197	49	28,258	174	10,837	2 9 9
1899-24	" " 25th "	16,534	17,863	1,22,863	11,497	44	29,404	181	11,612	2 8 6
1899-24	" " 2nd Dec.	16,764	19,609	1,34,991	12,390	64	32,053	198	11,170	2 13 11
1899-24	" " 9th "	16,937	19,188	67,046	10,809	62	30,050	185	10,698	2 12 11
Totals up to date		391,530	3,93,988	21,21,139	2,82,457	1,524	6,77,969	181	249,977	2 11 6

SOUTH BEHAR RAILWAY.

Approximate Return of Traffic for week ended 8th December 1900, on 78.76 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	8,966	Rs. A. P. 4,170 10 0	Mds. S. 40,579 30	Rs. A. P. 2,042 11 0	Rs. A. P. 43 0 0	Rs. A. P. 6,856 5 0	1,780	661	2,441
Or per mile of railway ...	.....	52 15 3	.....	33 8 10	0 8 9	87 0 10	.....	.....	.....
For previous 22 weeks of half-year ...	260,318*	1,38,721 15 0*	6,90,819 0†	45,590 3 0†	592 0 0‡	1,84,904 2 0	39,195‡	19,240‡	58,435
Total for 23 weeks ...	278,284	1,42,892 9 0	7,31,698 30	48,232 14 0	635 0 0	1,91,760 7 0	40,975	19,901	60,876
COMPARISON.									
Total for corresponding week of previous year ...	9,005	4,178 7 1	53,506 20	4,176 15 0	25 15 0	8,381 5 1	1,630	596	2,226
Per mile of railway corresponding week of previous year ...	.....	53 0 10	.....	53 0 7	0 5 3	106 6 8	.....	.....	.....
Total for corresponding 22½ weeks of previous year ...	221,660	1,09,164 3 8	8,40,559 20	64,635 15 9	462 2 9	1,74,262 6 2	28,729‡	10,745‡	39,475

* Added number of passengers 2,307 and Rs. 526 } On account of difference between the approximate and audited figures for the weeks ended 27th October and 3rd November 1900.
† Deducted 11,575 " " 74 }
‡ Ditto " " 33 }
§ Audited figure up to 3rd November 1900.

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
78.76*	Week ended 7th July ...	15,452	6,187	37,723	2,566	32	8,575	199	2,363	Rs. A. P. 3 10 1
78.76*	" " 14th " ...	12,989	6,244	37,208	2,577	20	8,841	112	2,284	3 13 11
78.76*	" " 21st " ...	11,883	5,432	36,570	2,535	36	7,703	98	2,284	3 6 0
78.76*	" " 28th " ...	11,231	7,733	25,292	1,556	20	9,309	118	2,206	4 3 7
78.76*	" " 4th August ...	10,924	5,220	31,691	2,117	15	7,352	93	2,205	3 5 4
78.76*	" " 11th " ...	10,879	4,708	32,269	1,891	9	6,608	84	2,362	2 12 9
78.76*	" " 18th " ...	9,646	4,348	25,820	1,810	13	6,171	78	2,757	2 3 10
78.76*	" " 25th " ...	9,136	4,256	31,693	2,646	11	6,913	88	2,677	2 9 4
78.76*	" " 1st Sept. ...	9,472	4,280	24,469	2,405	12	6,697	85	2,678	2 8 0
78.76*	" " 8th " ...	15,850	7,215	32,453	2,137	13	9,368	119	2,678	3 8 0
78.76*	" " 15th " ...	19,622	11,043	16,093	1,558	48	12,649	161	3,150	4 0 3
78.76*	" " 22nd " ...	18,294	11,303	16,807	1,527	19	12,549	159	2,992	4 3 1
78.76*	" " 29th " ...	17,797	9,862	20,701	1,954	31	11,832	150	2,599	4 9 0
78.76*	" " 6th Oct. ...	11,601	6,153	25,267	1,432	34	7,619	97	2,071	2 7 8
78.76*	" " 13th " ...	11,538	5,894	35,103	2,466	35	8,395	107	3,150	2 10 8
78.76*	" " 20th " ...	10,453	7,393	29,874	1,925	29	9,847	121	3,150	3 0 5
78.76*	" " 27th " ...	11,410	6,112	27,168	1,614	28	7,754	98	2,914	2 10 7
78.76*	" " 3rd Nov. ...	10,447	5,014	27,188	1,743	22	6,779	86	2,835	2 6 3
78.76	" " 10th " ...	10,165	5,428	43,989	2,702	40	8,250	108	2,520	3 4 4
78.76	" " 17th " ...	10,668	5,519	37,990	2,539	40	7,798	90	2,284	3 6 8
78.76	" " 24th " ...	9,488	4,786	40,070	2,530	42	7,358	93	2,363	3 1 10
78.76	" " 1st Dec. ...	8,690	4,089	45,881	2,685	43	6,817	87	2,914	2 5 5
78.76	" " 8th " ...	8,966	4,170	40,880	2,643	43	6,856	87	2,441	2 12 11
	Totals up to date ...	278,284	1,42,892	7,31,699	48,233	635	1,91,760	106	60,876	3 2 3

* Audited figures.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
65.00	4 days ended 8th July ...	1,436	417	242	23	1	441	7	390	Rs. A. P. 1 2 1
76.79	Week ended 15th " ...	8,287	4,246	17,382	1,566	12	5,818	76	1,084	5 5 10
78.76	" " 22nd " ...	9,773	4,442	19,285	1,901	13	6,356	81	1,113	5 11 4
78.76	" " 29th " ...	8,680	3,544	16,792	1,504	10	5,358	68	1,113	4 13 0
78.76	" " 5th August ...	9,445	4,795	16,885	1,237	25	6,057	77	1,113	5 7 1
78.76	" " 12th " ...	8,824	3,824	20,547	1,436	30	5,290	67	1,113	4 12 1
78.76	" " 19th " ...	8,190	3,280	20,676	2,196	17	5,503	70	1,113	4 15 1
78.76	" " 26th " ...	7,169	3,667	30,686	2,342	17	6,026	77	1,113	5 6 8
78.76	" " 2nd Sept. ...	8,128	5,121	39,781	2,816	25	7,042	101	1,113	7 2 6
78.76	" " 9th " ...	5,676	5,718	37,359	2,420	25	6,163	78	1,272	4 13 6
78.76	" " 16th " ...	7,999	5,641	47,796	3,149	12	7,802	99	1,590	4 14 0
78.76	" " 23rd " ...	10,086	6,780	43,414	2,850	17	9,637	123	2,385	4 0 9
78.76	" " 30th " ...	13,607	8,630	41,204	2,913	15	11,558	147	2,226	5 3 1
78.76	" " 7th Oct. ...	14,089	8,307	37,224	3,205	30	10,462	133	2,326	4 11 2
78.76	" " 14th " ...	13,986	7,207	46,508	3,931	21	8,595	109	2,226	3 13 9
78.76	" " 21st " ...	9,428	4,643	46,374	2,740	14	7,675	97	2,226	3 7 2
78.76	" " 28th " ...	9,468	4,921	37,306	3,201	13	8,688	110	2,226	3 14 5
78.76	" " 4th Nov. ...	10,481	6,414	45,402	3,219	20	8,680	110	2,226	3 14 6
78.76	" " 11th " ...	10,402	6,451	43,027	3,193	43	8,726	111	2,226	3 14 9
78.76	" " 18th " ...	10,825	5,490	56,633	4,390	28	9,942	126	2,226	4 7 6
78.76	" " 25th " ...	12,074	5,815	53,263	4,619	15	11,679	148	2,405	4 11 10
78.76	" " 2nd Dec. ...	11,481	5,046	42,857	3,328	24	7,443	95	2,464	3 0 4
78.76	" " 9th " ...	9,574	4,091	53,697	4,177	26	8,381	106	2,226	3 12 3
	Totals up to date ...	221,660	1,09,164	8,40,560	64,636	462	1,74,263	99	39,475	4 6 8

EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 15th December 1900, on 1,837.09 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total Traffic for the week ...	331,750	3,78,107 9 0	54,14,399 30	9,97,061 4 0	21,878 0 0	13,97,046 13 0	104,809	200,174	304,983
Or per mile of Railway ...	.....	205 13 1	.....	542 11 10	11 14 7	760 7 6	.....	.....	.....
For previous 23 weeks of half-year.	8,167,101	89,05,895 9 0	11,03,44,342 10	1,05,84,799 13 0	4,87,514 0 0	2,89,78,209 6 0	2,409,713	4,116,781	6,526,494
Total for 24 weeks ...	8,498,851	92,84,003 2 0	11,57,58,742 0	2,05,81,861 1 0	5,00,392 0 0	3,03,75,256 3 0	2,574,822	4,316,955	6,891,477
COMPARISON.									
Total for corresponding week of previous year.	839,199	3,87,545 1 10	51,88,861 10	10,00,017 3 2	59,155 2 2	15,36,717 7 2	97,635	193,898	291,533
Per mile of Railway corresponding week of previous year.	.....	226 8 9	.....	637 3 0	34 9 3	898 5 0	.....	.....	.....
Total for corresponding 24 weeks of previous year.	7,766,561	83,30,149 14 2	10,87,05,770 10	2,07,88,229 8 6	6,58,961 5 7	2,97,77,340 12 3	2,327,958	4,274,811	6,602,339

(a) The decrease is chiefly due to heavier upward despatches of food-grains in the corresponding period of 1899.

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1,836.15	Week ended 7th July	420,005	4,68,632	47,60,658	8,26,211	21,864	14,16,727	772	308,408	4 9 4
1,836.15	" " 14th "	382,635	3,75,906	40,63,181	9,21,659	22,241	13,19,896	719	297,447	4 7 0
1,837.09	" " 21st "	357,210	3,53,782	47,04,842	8,55,140	19,504	12,58,426	685	297,511	4 3 8
1,837.09	" " 28th "	344,710	3,46,133	56,80,789	9,27,060	19,376	12,02,560	704	294,959	4 6 1
1,837.09	" " 4th Aug.	362,331	4,51,735	45,10,233	8,31,084	18,867	12,02,576	704	290,428	4 7 3
1,837.09	" " 11th "	367,079	4,02,927	40,65,767	8,32,702	21,165	12,56,854	684	293,475	4 4 6
1,837.09	" " 18th "	344,267	3,69,027	44,55,790	7,51,090	19,220	11,39,247	620	283,313	3 15 11
1,837.09	" " 25th "	323,975	3,53,163	44,60,273	7,62,206	24,415	11,19,724	610	276,803	4 0 8
1,837.09	" " 1st Sept.	334,175	4,00,793	45,54,078	7,85,380	21,048	12,07,180	657	277,933	4 0 8
1,837.09	" " 8th "	410,042	4,27,796	47,33,338	7,04,851	21,055	12,07,491	684	297,531	4 5 0
1,837.09	" " 15th "	360,111	3,65,045	47,41,478	7,04,851	15,829	11,78,825	642	287,401	4 2 9
1,837.09	" " 22nd "	308,288	3,24,581	38,32,084	6,03,692	17,800	9,46,009	615	277,080	3 7 3
1,837.09	" " 29th "	372,820	3,69,337	40,33,663	6,02,802	22,351	10,84,590	690	293,466	4 3 2
1,837.09	" " 6th Oct.	333,442	3,82,638	35,40,023	6,70,859	19,325	10,72,822	684	266,780	4 0 4
1,837.09	" " 13th "	340,351	3,60,351	44,54,178	7,56,798	19,194	11,75,843	640	273,880	4 4 11
1,837.09	" " 20th "	344,107	3,96,586	56,29,974	10,06,056	22,854	14,26,396	776	284,667	5 0 2
1,837.09	" " 27th "	330,704	3,46,970	45,92,003	8,51,486	22,404	12,19,050	624	274,532	4 2 2
1,837.09	" " 3rd Nov.	305,111	4,22,057	54,75,546	9,64,942	21,118	14,08,117	766	290,540	4 11 0
1,837.09	" " 10th "	401,876	4,10,329	51,82,569	9,54,950	24,819	13,09,098	763	279,559	5 0 1
1,837.09	" " 17th "	332,805	3,99,559	52,31,343	9,77,043	24,803	14,00,864	763	288,910	4 13 7
1,837.09	" " 24th "	348,991	4,07,940	50,23,794	9,47,180	24,010	13,79,139	751	291,600	4 11 8
1,837.09	" " 1st Dec.	332,150	3,68,038	49,40,355	9,67,693	23,219	13,55,860	740	288,289	4 12 9
1,837.09	" " 8th "	327,833	3,73,438	52,92,387	9,74,168	20,787	13,68,455	745	295,682	4 10 1
1,837.09	" " 15th "	331,750	3,78,108	54,14,400	9,97,061	21,878	13,97,047	709	304,968	4 9 3
Totals up to date		8,498,851	92,84,003	11,57,58,742	2,05,81,861	5,00,392	3,03,75,256	680	6,891,477	4 6 6

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1,710.67	8 days of July	425,807	4,54,371	45,89,139	8,06,060	16,693	12,77,124	747	307,818	4 2 5
1,710.67	Week ended 15th July	361,619	3,51,954	42,17,639	6,87,306	13,140	10,52,402	615	254,918	4 2 1
1,710.67	" " 22nd "	346,546	3,37,912	35,12,074	6,08,241	13,055	9,58,338	560	236,032	4 1 0
1,710.67	" " 29th "	305,660	3,05,455	34,23,290	5,78,387	12,012	8,96,734	524	235,632	3 12 11
1,710.67	" " 5th Aug.	308,202	3,31,852	39,80,345	6,39,140	14,859	9,85,851	576	243,941	4 0 8
1,710.67	" " 12th "	313,033	2,91,982	37,29,186	6,43,601	13,916	9,40,559	555	244,678	3 14 1
		Adjustments on account of previous period.					1,70,137*	2,15,983	.....	.....
1,710.67	" " 19th "	306,970	2,91,935	39,30,581	6,57,599	22,761	9,72,295	568	243,174	4 0 0
1,710.67	" " 26th "	313,596	2,78,251	41,21,908	6,89,028	24,138	9,91,417	580	240,401	3 15 7
1,710.67	" " 2nd Sept.	289,203	2,76,502	48,51,418	7,70,919	21,518	10,63,939	625	234,879	4 3 1
1,710.67	" " 9th "	291,974	2,67,986	46,73,914	8,16,056	22,599	11,06,641	647	264,104	4 3 1
1,710.67	" " 16th "	316,412	3,31,326	44,47,736	8,50,448	22,271	12,04,045	704	277,838	4 5 4
1,710.67	" " 23rd "	345,177	3,74,256	43,67,671	9,13,071	23,802	13,09,129	765	286,478	4 9 1
1,710.67	" " 30th "	326,546	3,33,116	52,82,751	9,51,508	19,806	13,04,430	763	280,128	4 8 11
1,710.67	" " 7th Oct.	337,448	3,04,039	46,70,178	9,56,735	29,452	13,50,226	780	298,339	4 8 5
1,710.67	" " 14th "	331,968	3,52,629	47,36,397	8,89,685	31,059	12,73,373	744	284,163	4 7 8
1,710.67	" " 21st "	293,494	3,42,679	46,00,687	9,03,951	24,028	12,70,698	733	282,407	4 8 0
1,710.67	" " 28th "	306,345	3,33,081	53,31,358	10,09,143	32,810	14,25,034	843	297,361	4 12 8
1,710.67	" " 4th Nov.	279,671	3,61,869	46,98,427	9,99,570	27,227	13,88,666	812	299,368	4 10 3
1,710.67	" " 11th "	326,829	3,85,433	44,38,053	9,38,209	30,735	13,54,377	792	295,642	4 9 4
1,710.67	" " 18th "	341,046	3,68,256	40,89,459	9,99,174	36,811	13,08,241	817	295,780	4 11 8
1,710.67	" " 25th "	338,813	4,06,348	54,44,857	10,84,563	36,645	15,27,453	893	292,144	5 3 8
1,710.67	" " 2nd Dec.	311,474	3,67,065	40,40,163	10,59,813	31,193	14,59,011	822	282,235	5 2 8
1,710.67	" " 9th "	309,129	3,90,366	48,39,969	10,76,811	34,480	15,01,657	878	298,409	5 0 6
1,710.67	" " 16th "	330,199	3,87,545	51,88,861	10,90,018	59,155	15,36,718	898	291,534	5 4 4
Totals up to date		7,766,561	83,30,150	10,87,05,770	2,07,88,230	6,58,961	2,97,77,341	721	6,602,340	4 8 2

* Audited figures.

† Rs. 1,70,137—Added on account of rebate on coal deducted from returns from 1st July to 12th August 1899.

‡ " 45,826—Ditto ditto of mileage and demurrage not having been included in returns from 1st July to 12th August 1899.

TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for the week ended 15th December 1900 on 22·23 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	18,422	4,035 0 0	34,450 30	700 6 0	6 0 0	5,401 6 0	989	199	1,188
Or per mile of railway ...	.....	211 3 3	.....	31 8 1	0 4 4	242 15 8	.....	.....	.....
For previous 23 weeks of half-year ...	478,503	1,12,032 10 0	4,91,822 30	15,817 9 0	175 0 0	1,28,035 3 0	24,467	2,741	27,208
Total for 24 weeks ...	496,925	1,16,727 10 0	5,26,273 20	16,517 15 0	181 0 0	1,33,426 9 0	25,456	2,940	28,396
COMPARISON.									
Total for corresponding week of previous year ...	17,585	4,163 1 11	13,079 10	498 13 0	4 9 6	4,666 8 5	1,088	199	1,188
Per mile of railway corresponding week of previous year ...	.....	187 4 5	.....	22 7 0	0 3 4	209 14 9	.....	.....	.....
Total for corresponding 24 weeks of previous year ...	467,528	1,10,683 5 11	4,89,027 20	13,577 9 0	193 7 0	1,24,454 6 8	25,996	4,135	30,131

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
									Rs. A. P.	
22-23*	Week ended 7th July	20,128	6,639	9,631	390	7	7,045	317	1,188	5 14 11
22-23*	" " 14th "	32,489	7,452	12,537	459	7	7,918	356	1,296	6 1 9
22-23*	" " 21st "	19,929	4,805	9,946	441	10	5,256	236	1,188	4 6 9
22-23*	" " 28th "	19,106	4,520	19,915	492	10	5,022	226	1,188	4 3 8
22-23*	" " 4th Aug.	18,774	4,516	8,298	343	5	4,864	219	1,188	4 1 6
22-23*	" " 11th "	12,867	4,760	19,074	428	6	5,194	234	1,188	4 5 11
22-23*	" " 18th "	15,943	3,513	6,795	286	4	3,803	171	1,188	3 3 3
22-23*	" " 25th "	15,357	3,209	8,183	375	11	3,655	164	1,188	3 1 3
22-23*	" " 1st Sept.	16,775	3,614	8,748	359	6	3,970	179	1,188	3 5 6
22-23*	" " 8th "	18,791	4,430	6,923	375	7	4,712	213	1,188	3 15 6
22-23*	" " 15th "	22,670	4,740	3,348	366	7	5,113	240	1,188	4 4 10
22-23*	" " 22nd "	12,457	2,832	4,644	214	11	3,057	138	1,188	2 9 2
22-23*	" " 29th "	17,721	4,204	10,008	429	7	4,640	209	1,288	3 12 5
22-23*	" " 6th Oct.	21,126	4,988	18,047	734	8	5,730	258	1,012	5 10 7
22-23*	" " 13th "	20,780	4,898	26,136	865	10	5,773	260	1,100	5 4 0
22-23*	" " 20th "	21,125	4,966	35,127	1,061	10	6,037	299	1,188	5 9 5
22-23*	" " 27th "	21,680	5,193	33,530	1,007	4	6,204	279	1,188	5 3 7
22-23*	" " 3rd Nov.	25,030	5,074	25,286	1,098	8	7,080	318	1,188	5 15 4
22-23*	" " 10th "	27,304	6,828	47,129	1,168	8	8,004	360	1,188	6 11 10
22-23*	" " 17th "	22,629	5,181	49,704	1,150	7	6,338	285	1,188	5 5 4
22-23*	" " 24th "	21,688	5,102	51,467	1,363	7	6,462	291	1,188	5 7 0
22-23*	" " 1st Dec.	19,844	4,831	45,485	995	8	6,834	292	1,188	4 14 7
22-23*	" " 8th "	19,090	4,778	41,774	929	7	5,714	257	1,188	4 13 0
22-23*	" " 15th "	18,422	4,695	34,451	701	6	5,402	243	1,188	4 8 9
Totals up to date ...		496,925	1,16,728	5,26,274	16,518	181	1,33,427	250	28,396	14 11 2

Abstract of progressive weekly return of all earnings for 1900 in comparison with 1899—concluded.

1899.

		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
									Rs. A. P.	
22-23	8 days of July	24,246	6,025	8,040	322	13	6,360	286	1,437	4 6 10
22-23	Week ended 15th July	21,805	4,792	47,285	448	16	5,256	236	1,296	4 1 1
22-23	" " 22nd "	23,415	5,142	13,329	348	7	5,497	247	1,188	4 10 0
22-23	" " 29th "	17,231	3,874	8,901	915	6	4,795	216	1,241	3 13 10
22-23	" " 5th Aug.	16,072	3,760	9,329	387	12	4,169	187	1,188	3 8 0
22-23	" " 12th "	17,357	3,969	8,081	401	4	4,374	197	1,188	3 10 11
22-23	" " 19th "	17,248	4,135	16,614	347	9	4,491	202	1,188	3 12 6
22-23	" " 26th "	16,265	3,696	7,169	324	6	4,025	181	1,188	3 6 3
22-23	" " 2nd Sept.	15,719	3,592	9,400	376	11	3,979	179	1,188	3 5 7
22-23	" " 9th "	18,830	4,395	10,231	428	7	4,830	217	1,188	4 1 0
22-23	" " 16th "	18,864	4,195	9,382	393	9	4,597	207	1,258	3 10 6
22-23	" " 23rd "	16,051	3,809	17,189	446	5	4,260	193	1,188	3 9 4
22-23	" " 30th "	18,764	4,317	16,331	553	9	4,879	219	1,188	4 1 1
22-23	" " 7th Oct.	19,719	4,791	12,176	582	9	5,382	242	1,188	4 8 6
22-23	" " 14th "	23,449	6,172	9,579	423	16	6,611	297	1,634	6 8 3
22-23	" " 21st "	18,656	4,533	6,616	291	6	4,830	217	1,634	4 10 8
22-23	" " 28th "	20,007	4,950	15,694	727	6	5,683	256	1,188	4 12 6
22-23	" " 4th Nov.	20,210	4,735	14,393	898	3	5,546	240	1,456	3 12 11
22-23	" " 11th "	23,466	5,664	17,402	777	5	6,446	290	1,534	4 3 2
22-23	" " 18th "	23,533	5,773	31,735	1,377	10	7,060	319	1,267	5 9 2
22-23	" " 25th "	22,285	5,392	49,865	963	10	6,365	286	1,410	4 8 3
22-23	" " 2nd Dec.	18,749	4,411	36,387	857	6	5,274	237	1,447	3 10 4
22-23	" " 9th "	18,002	4,398	41,430	686	5	5,089	229	1,464	3 7 7
22-23	" " 16th "	17,585	4,163	13,679	499	4	4,666	210	1,188	3 14 10
Totals up to date ...		467,528	1,10,683	4,89,027	13,578	193	1,24,454	233	30,131	4 2 1

* Audited figures.

DELHI-UMBALLA-KALKA RAILWAY.

Approximate Return of Traffic for week ended 15th December 1900, on 162.24 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of Passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	17,529	Rs. A. P. 17,100 14 0	Mds. Sbs. 1,65,102 30	Rs. A. P. 14,026 10 0	Rs. A. P. 86 0 0	Rs. A. P. 31,193 8 0	7,106	4,082	11,188
Or per mile of Railway ...	...	105 6 6	...	86 7 3	0 6 6	192 4 3	...	...	...
For previous 24 weeks of half-year.	354,447	3,49,806 6 0	33,53,237 30	2,20,314 11 0	1,740 0 0	5,71,861 1 0	168,646	78,155	246,801
Total for 24 weeks ...	371,976	3,66,907 4 0	34,98,340 20	2,34,341 5 0	1,800 0 0	6,03,054 9 0	175,762	82,267	258,019
COMPARISON.									
Total for corresponding week of previous year.	18,113	16,927 9 4	77,920 30	10,123 2 0	95 4 0	27,145 15 4	7,300	2,908	10,168
Per mile of Railway corresponding week of previous year.	...	104 5 4	...	62 6 4	0 9 5	167 5 1	...	...	...
Total for corresponding 24 weeks of previous year.	409,645	4,10,015 13 11	21,99,039 20	2,92,580 5 6	1,618 13 6	7,05,115 0 11	178,353	81,592	260,154

1900. Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.
		No. of Passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No. Rate.
1899-24*	Week ended 7th July ...	19,338	21,170	88,170	11,150	84	32,410	200	11,974
1900-24*	" " 14th " ...	20,290	20,632	98,450	10,400	68	31,100	192	12,904
1900-24*	" " 21st " ...	11,952	10,254	146,874	4,954	70	15,278	94	9,672
1900-24*	" " 28th " ...	12,806	9,553	2,08,023	6,865	83	16,501	102	9,190
1900-24*	" " 4th Aug.	14,501	10,672	44,541	3,454	91	14,217	88	9,083
1900-24*	" " 11th " ...	12,067	9,444	3,03,861	8,843	42	18,329	113	10,407
1900-24*	" " 18th " ...	13,765	10,372	1,27,627	4,870	84	16,326	94	9,297
1900-24*	" " 25th " ...	13,442	8,500	2,44,893	5,724	63	14,287	88	8,831
1900-24*	" " 1st Sept.	13,446	9,284	3,00,569	5,845	59	15,188	94	9,114
1900-24*	" " 8th " ...	14,627	12,960	1,69,945	7,109	118	20,187	124	11,099
1900-24*	" " 15th " ...	18,196	14,566	1,79,383	8,522	75	23,163	143	12,232
1900-24*	" " 22nd " ...	12,530	12,092	40,757	6,609	66	18,757	116	11,225
1900-24*	" " 29th " ...	15,352	18,265	56,264	9,307	77	27,649	170	11,457
1900-24*	" " 6th Oct.	14,932	16,130	78,802	10,514	66	26,700	165	11,402
1900-24*	" " 13th " ...	17,002	18,437	2,51,171	11,816	74	30,327	187	11,028
1900-24*	" " 20th " ...	16,073	17,011	84,049	12,190	101	29,302	181	11,234
1900-24*	" " 27th " ...	14,178	16,004	74,636	12,041	83	28,728	177	11,080
1900-24*	" " 3rd Nov.	18,765	22,160	1,47,314	12,668	136	35,164	217	12,186
1900-24*	" " 10th " ...	19,153	22,779	1,43,637	14,824	64	37,467	231	11,290
1900-24*	" " 17th " ...	16,357	17,046	1,57,524	16,117	65	33,228	205	11,432
1900-24*	" " 24th " ...	17,060	18,803	1,30,985	12,412	66	31,331	193	10,416
1900-24*	" " 1st Dec.	16,326	16,384	1,40,991	11,925	63	28,372	175	10,012
1900-24*	" " 8th " ...	16,470	16,632	1,37,243	12,156	62	28,850	178	10,174
1900-24*	" " 15th " ...	17,529	17,101	1,65,103	14,026	66	31,193	192	11,188
Totals up to date ...		371,976	3,66,907	34,98,341	2,34,341	1,800	6,03,054	155	258,019

* Audited figures.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

1899.

		No. of Passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
1899-24*	8 days of July ...	23,211	19,776	72,881	9,176	95	29,047	179	11,955	2 6 11
1900-24*	Week ended 15th July ...	20,339	17,654	61,713	8,858	60	26,472	163	9,953	2 10 7
1900-24*	" " 22nd " ...	18,720	15,146	54,224	7,189	48	22,383	138	10,214	2 3 1
1900-24*	" " 29th " ...	18,629	13,788	63,096	10,669	70	24,427	151	10,117	2 6 8
1900-24*	" " 5th Aug.	17,505	13,675	94,248	9,742	63	23,480	145	9,757	2 6 6
1900-24*	" " 12th " ...	16,675	13,507	70,869	10,582	46	21,145	140	9,935	2 6 11
1900-24*	" " 19th " ...	17,407	13,744	76,677	10,932	68	24,739	162	10,358	2 6 3
1900-24*	" " 26th " ...	16,297	14,458	76,677	11,425	96	33,213	198	10,348	3 3 4
1900-24*	" " 2nd Sept.	14,582	12,563	1,25,170	16,043	59	28,695	177	10,714	2 10 10
1900-24*	" " 9th " ...	16,099	13,747	1,01,258	10,045	79	23,871	147	11,318	2 1 9
1900-24*	" " 16th " ...	15,810	17,033	1,40,432	18,329	112	35,405	219	12,132	2 14 9
1900-24*	" " 23rd " ...	16,506	25,374	1,07,670	12,156	73	37,603	232	13,722	2 11 10
1900-24*	" " 30th " ...	15,814	18,623	77,745	10,921	45	29,491	182	10,686	2 13 2
1900-24*	" " 7th Oct.	15,465	15,799	80,855	14,372	95	30,290	187	10,383	2 14 8
1900-24*	" " 14th " ...	15,977	17,507	84,086	12,031	56	26,534	187	10,139	2 15 6
1900-24*	" " 21st " ...	16,036	16,715	75,799	12,057	60	28,832	177	9,924	2 14 6
1900-24*	" " 28th " ...	16,329	19,907	80,850	14,807	71	34,285	211	10,774	3 2 11
1900-24*	" " 4th Nov.	16,659	22,063	1,04,004	15,701	59	37,813	233	11,397	3 5 1
1900-24*	" " 11th " ...	17,069	20,645	86,855	13,003	65	33,713	208	11,440	2 13 7
1900-24*	" " 18th " ...	16,096	16,012	93,343	12,197	49	28,258	174	10,537	2 9 9
1900-24*	" " 25th " ...	16,534	17,863	1,22,863	11,497	44	29,404	181	11,612	2 8 6
1900-24*	" " 2nd Dec.	16,764	19,609	1,36,901	12,890	54	32,053	198	11,170	2 13 11
1900-24*	" " 9th " ...	16,537	19,188	67,046	10,800	62	30,050	185	10,698	2 12 11
1900-24*	" " 16th " ...	18,113	16,928	77,921	10,123	95	27,145	167	10,168	2 10 9
Totals up to date ...		409,645	4,10,916	21,99,000	2,92,580	1,619	7,05,115	180	260,145	2 11 4

SOUTH BEHAR RAILWAY.

Approximate Return of Traffic for week ended 15th December 1900 on 78.76 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	8,956	4,337 8 0	30,324 20	3,074 15 0	43 0 0	7,455 7 0	1,804	732	2,536
Or per mile of railway ...	.....	55 1 2	.....	39 0 8	0 8 9	94 10 7	.....	.....	.....
For previous 23 weeks of half-year ...	278,284	1,42,892 0	7,31,098 30	48,233 14 0	635 0 0	1,01,760 7 0	40,975	19,991	60,976
Total for 24 weeks ...	278,240	1,47,230 1 0	7,71,023 10	51,307 13 0	678 0 0	1,02,215 14 0	42,779	20,633	63,412
COMPARISON.									
Total for corresponding week of previous year ...	8,995	3,960 9 4	40,926 0	3,489 15 0	10 8 6	7,461 0 10	1,715	511	2,226
Or per mile of railway corresponding week of previous year ...	.....	50 4 7	.....	44 5 0	0 2 1	94 11 8	.....	.....	.....
Total for corresponding 23 weeks of previous year ...	230,655	1,13,124 13 0	8,81,485 20	68,125 14 9	472 11 3	1,81,723 7 0	30,444	11,556	41,701

1900.

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
78.76	Weekended 7th July ...	13,432	6,487	37,723	2,056	32	8,575	109	2,363	3 10 1
78.76	" " 14th " ...	12,989	6,244	37,308	2,577	29	8,841	112	2,284	3 13 11
78.76	" " 21st " ...	11,583	5,432	36,579	2,235	36	7,703	98	2,284	3 6 0
78.76	" " 28th " ...	13,231	7,753	28,292	1,556	29	9,309	118	2,205	4 3 7
78.76	" " 4th Aug. ...	10,924	5,220	31,691	2,117	15	7,352	93	2,205	3 5 4
78.76	" " 11th " ...	10,579	4,768	32,369	1,891	9	6,668	84	2,362	2 12 9
78.76	" " 18th " ...	9,546	4,348	25,820	1,810	13	6,171	78	2,757	2 3 10
78.76	" " 25th " ...	9,130	4,256	31,093	2,646	11	6,913	88	2,677	2 9 4
78.76	" " 1st Sept. ...	9,472	4,280	21,869	2,405	12	6,097	85	2,678	2 8 0
78.76	" " 8th " ...	15,830	7,218	32,453	2,137	13	8,368	119	2,678	3 8 0
78.76	" " 15th " ...	19,022	11,043	16,093	1,558	48	12,649	161	3,150	4 0 3
78.76	" " 22nd " ...	18,294	11,303	16,807	1,227	19	12,540	159	2,992	4 3 1
78.76	" " 29th " ...	17,797	9,802	16,701	1,959	31	11,852	150	2,599	4 9 0
78.76	" " 6th Oct. ...	11,691	6,153	25,367	1,432	34	7,619	97	3,071	2 7 8
78.76	" " 13th " ...	11,628	5,894	35,103	2,466	35	8,365	107	3,150	2 10 8
78.76	" " 20th " ...	10,453	7,593	29,874	1,925	29	9,517	121	3,150	3 0 5
78.76	" " 27th " ...	11,410	6,112	27,168	1,614	28	7,754	98	2,914	3 10 7
78.76	" " 3rd Nov. ...	10,447	5,014	27,188	1,743	22	6,779	86	2,835	2 6 3
78.76	" " 10th " ...	10,168	5,428	43,980	2,782	40	8,250	105	2,520	3 4 4
78.76	" " 17th " ...	10,688	5,519	37,990	2,239	40	7,798	99	2,284	3 6 8
78.76	" " 24th " ...	9,488	4,786	40,070	2,530	42	7,358	93	2,363	3 1 10
78.76	" " 1st Dec. ...	8,090	4,089	45,881	2,083	43	6,817	87	2,914	2 5 5
78.76	" " 8th " ...	8,066	4,170	40,880	2,643	43	6,850	87	2,441	2 12 11
78.76	" " 15th " ...	8,956	4,358	39,324	3,076	43	7,456	95	2,536	2 15 0
Totals up to date ...		287,240	1,47,230	7,71,023	51,308	678	1,02,215	195	63,412	3 2 3

Abstract of progressive weekly returns of all earnings for 1900 in comparison with 1899—concluded.

189.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
65.00	4 days ended 8th July ...	1,436	417	242	23	1	441	7	390	1 2 1
76.79	Week ended 15th " ...	8,297	4,240	17,382	1,566	12	5,818	76	1,984	5 5 10
78.76	" " 22nd " ...	9,773	4,442	19,285	1,901	15	6,356	81	1,113	5 11 4
78.76	" " 29th " ...	8,060	3,844	15,792	1,594	10	5,398	68	1,113	4 13 0
78.76	" " 5th Aug. ...	9,445	4,795	16,885	1,237	25	6,057	77	1,113	5 7 1
78.76	" " 12th " ...	8,190	3,824	20,547	1,436	30	5,290	67	1,113	4 12 1
78.76	" " 19th " ...	7,169	3,290	20,676	2,196	17	5,503	70	1,113	4 15 1
78.76	" " 26th " ...	8,128	3,667	30,688	2,842	17	6,026	77	1,113	5 6 8
78.76	" " 2nd Sept. ...	8,675	5,121	39,781	2,816	25	7,962	101	1,113	7 2 5
78.76	" " 9th " ...	7,909	3,718	37,359	2,410	23	6,163	78	1,272	4 13 6
78.76	" " 16th " ...	10,680	4,641	47,796	3,149	13	7,892	99	1,590	4 14 6
78.76	" " 23rd " ...	13,607	6,780	34,414	2,860	17	9,637	123	2,385	4 0 6
78.76	" " 30th " ...	14,080	8,630	41,304	2,913	15	11,558	147	2,226	3 3 1
78.76	" " 7th Oct. ...	12,986	7,207	37,324	3,206	39	10,462	133	2,226	4 11 2
78.76	" " 14th " ...	9,422	4,643	46,508	3,931	21	8,595	109	2,226	3 13 9
78.76	" " 21st " ...	9,468	4,921	46,274	2,740	14	7,675	97	2,226	3 7 2
78.76	" " 28th " ...	10,481	5,414	37,306	3,261	13	8,688	110	2,226	3 14 5
78.76	" " 4th Nov. ...	10,402	5,451	45,402	3,219	20	8,680	110	2,226	3 14 0
78.76	" " 11th " ...	10,823	5,490	43,527	3,193	41	8,726	111	2,226	3 14 9
78.76	" " 18th " ...	12,074	5,315	56,633	4,599	28	9,942	126	2,226	4 7 6
78.76	" " 25th " ...	11,481	5,945	63,283	6,619	15	11,679	142	2,465	4 11 10
78.76	" " 2nd Dec. ...	9,374	4,091	48,637	3,928	24	7,443	95	2,464	3 0 4
78.76	" " 9th " ...	9,005	4,178	53,597	4,177	26	8,381	106	2,226	3 12 3
78.76	" " 16th " ...	8,905	3,961	40,926	3,490	10	7,461	95	2,226	3 5 8
Totals up to date ...		230,655	1,13,125	8,81,486	68,126	472	1,81,723	98	41,701	4 5 5

* Audited figures.

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., K.-D., DACCA, AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 15th December 1900, on 843 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	213,830	Rs. A. P. 11,11,400 0 0	MDS. S. 10,96,820 0	Rs. A. P. 2,40,370 0 0	Rs. A. P. 11,410 0 0	Rs. A. P. 13,63,180 0 0	35,410	49,088	84,498
Or per mile of railway ...	254	132 0 0	1,301 0	285 0 0	1 0 0	*418 0 0	...	...	...
For previous 23 weeks of half-year ...	5,100,329	24,33,709 0 0	2,67,79,177 0	56,39,007 0 0	4,57,189 0 0	85,29,905 0 0	805,527	1,078,841	1,884,668
Total for 24 weeks ...	5,314,159	25,45,109 0 0	2,78,75,997 0	58,79,377 0 0	4,68,599 0 0	88,93,145 0 0	841,237	1,127,929	1,969,166
COMPARISON.									
Total for corresponding week of previous year ...	213,019	1,11,881 0 0	9,16,392 0	2,01,105 0 0	15,550 0 0	3,28,536 0 0	36,546	46,362	83,208
Per mile of railway corresponding week of previous year ...	256	134 0 0	1,099 0	241 0 0	1 0 0	376 0 0	...	...	...
Total to corresponding date of previous year ...	5,055,990	24,11,794 0 0	2,58,45,490 0	54,28,871 0 0	4,51,480 0 0	83,22,145 0 0	803,690	1,050,115	1,921,715

* Excluding steamer earnings.

† Audited up to 13th October 1900.

‡ Increase is chiefly due to jute traffic.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 15th December 1900, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	26,780	Rs. A. P. 8,730 0 0	MDS. S. 41,050 0	Rs. A. P. 4,020 0 0	Rs. A. P. 80 0 0	Rs. A. P. 12,830 0 0	2,540	1,500	5,747
Or per mile of Railway ...	311	101 0 0	488 0	47 0 0	1 0 0	149 0 0	...	...	...
For previous 23 weeks of half-year ...	576,750	1,84,146 0 0	11,88,652 0	1,13,548 0 0	9,577 0 0	3,07,071 0 0	57,605	1,5,854	1,12,551
Total for 24 weeks ...	603,530	1,92,876 0 0	12,30,602 0	1,17,668 0 0	9,457 0 0	3,19,901 0 0	60,235	16,009	1,19,298
COMPARISON.									
Total for corresponding week of previous year ...	25,974	8,196 0 0	32,060 0	3,207 0 0	81 0 0	11,484 0 0	2,078	1,108	4,116
Per mile of railway corresponding week of previous year ...	302	95 0 0	383 0	57 0 0	1 0 0	133 0 0	...	...	...
Total to corresponding date of previous year ...	584,916	1,82,711 0 0	10,23,221 0	94,828 0 0	15,096 0 0	2,93,535 0 0	64,369	43,604	1,07,973

* Audited up to 13th October 1900.

COOCH BEHAR STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 15th December 1900, on 3373 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	1,730	Rs. A. P. 740 0 0	MDS. S. 6,500 0	Rs. A. P. 810 0 0	Rs. A. P. 20 0 0	Rs. A. P. 1,570 0 0	350	1,080	11,430
Or per mile of railway ...	51	22 0 0	193 0	24 0 0	.....*	*46 0 0	...	...	...
For previous 23 weeks of half-year ...	57,888	19,387 0 0	1,50,779 0	18,038 0 0	2,494 0 0	39,919 0 0	7,327	17,366	24,593
Total for 24 weeks ...	59,618	20,127 0 0	1,63,279 0	18,848 0 0	2,514 0 0	41,489 0 0	7,677	18,346	26,023
COMPARISON.									
Total for corresponding week of previous year ...	1,467	624 0 0	9,863 0	1,363 0 0	154 0 0	2,141 0 0	154	1,050	1,204
Per mile of railway corresponding week of previous year ...	44	19 0 0	297 0	41 0 0	1 0 0	61 0 0	...	...	...
Total to corresponding date of previous year ...	50,940	17,260 0 0	2,07,406 0	20,346 0 0	3,224 0 0	40,836 0 0	7,585	21,037	28,622

* Excluding coaching ferry.

† Audited up to 13th October 1900.

‡ Includes Ballast Train miles 570.

MYMENSINGH-JAGANNATHGANJ RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 15th December 1900, on 53.37 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	8,890	2,140 0 0	19,760 0	960 0 0	30 0 0	3,130 0 0	1,000	434	1,434
Or per mile of railway ...	167	40 0 0	370 0	18 0 0	1 0 0	59 0 0	...	...	...
For previous 23 weeks of half-year ...	210,110	49,514 0 0	4,36,717 0	30,293 0 0	746 0 0	80,552 0 0	25,567	12,103	37,660
Total for 24 weeks ...	219,000	51,654 0 0	4,56,477 0	31,253 0 0	776 0 0	83,682 0 0	26,617	12,627	39,144
COMPARISON.									
Total for corresponding week of previous year ...	8,361	1,958 0 0	6,197 0	231 0 0	29 0 0	2,218 0 0	931	712	1,643
Per mile of railway corresponding week of previous year ...	153	36 0 0	113 0	4 0 0	1 0 0	41 0 0	...	...	...
Total to corresponding date of previous year ...	106,389	23,673 0 0	1,44,165 0	7,500 0 0	222 0 0	31,395 0 0	16,417	11,816	28,233

* Audited up to 13th October 1900.

BRAHMAPUTRA-SULTANPUR RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 15th December 1900, on 59 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	6,100	1,750 0 0	15,310 0	2,010 0 0	20 0 0	3,860 0 0	1,320	380	1,690
Or per mile of railway ...	103	29 0 0	310 0	35 0 0	...	64 0 0	...	...	...
For previous 23 weeks of half-year ...	139,107	31,548 0 0	4,19,816 0	44,303 0 0	723 0 0	76,574 0 0	21,352	21,500	42,852
Total for 24 weeks ...	145,207	33,298 0 0	4,34,126 0	46,333 0 0	743 0 0	80,374 0 0	22,672	21,560	44,232
COMPARISON.									
Total for corresponding week of previous year ...	1,969	612 0 0	9,451 0	632 0 0	18 0 0	1,262 0 0	183	793	983
Per mile of railway corresponding week of previous year ...	79	25 0 0	382 0	25 0 0	1 0 0	51 0 0	...	...	...
Total to corresponding date of previous year ...	40,467	11,926 0 0	2,03,154 0	9,836 0 0	203 0 0	21,795 0 0	4,829	16,058	20,887

* Audited up to 13th October 1900.

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., K.-D., DACCA, AND ASSAM-BEHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 22nd December 1900 on 843 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	219,310	1,13,560 0 0	1,023,039 0	2,09,110 0 0	10,880 0 0	3,33,450 0 0	35,370	48,717	84,087
Or per mile of railway ...	260	135 0 0	1,221 0	248 0 0	1 0 0	394 0 0*	...	...	...
For previous 24 weeks of half-year ...	5,314,159	25,45,169 0 0	27,875,997 0	58,79,377 0 0	4,08,509 0 0	88,93,145 0 0	841,237	1,127,929	1,969,166
Total for 25 weeks ...	5,533,469	26,58,729 0 0	28,905,037 0	60,88,487 0 0	4,19,479 0 0	92,26,695 0 0	876,607	1,176,646	2,053,253
COMPARISON.									
Total for corresponding week of previous year ...	202,878	1,08,105 0 0	1,032,818 0	2,16,280 0 0	16,618 0 0	3,41,003 0 0	36,250	44,622	80,872
Per mile of railway corresponding week of previous year ...	243	130 0 0	1,238 0	259 0 0	1 0 0	390 0 0	...	...	...
Total to corresponding date of previous year ...	5,238,869	25,19,899 0 0	26,578,218 0	56,45,151 0 0	4,95,095 0 0	86,63,148 0 0	838,830	1,103,740	2,002,570

* Excluding steamer earnings.

† Audited up to 13th October 1900.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 22nd December 1900 on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	25,630	8,220 0 0	63,220 0	5,780 0 0	360 0 0	14,360 0 0	2,525	3,187	5,712
Or per mile of railway ...	298	90 0 0	745 0	67 0 0	4 0 0	167 0 0	...	...	...
For previous 24 weeks of half-year* ...	603,630	1,02,579 0 0	1,230,002 0	1,17,568 0 0	9,457 0 0	3,19,991 0 0	60,235	59,093	119,298
Total for 25 weeks ...	629,190	2,01,096 0 0	1,293,922 0	1,23,348 0 0	9,817 0 0	3,34,251 0 0	62,760	62,230	125,010
COMPARISON.									
Total for corresponding week of previous year ...	24,241	7,601 0 0	38,845 0	4,075 0 0	112 0 0	11,848 0 0	2,568	1,538	4,106
Per mile of railway corresponding week of previous year ...	282	89 0 0	449 0	48 0 0	1 0 0	138 0 0	...	...	...
Total to corresponding date of previous year ...	609,157	1,00,372 0 0	1,061,866 0	98,903 0 0	16,108 0 0	3,05,383 0 0	66,937	45,142	112,079

* Audited up to 13th October 1900.

COOCH BEHAR STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 22nd December 1900 on 33.73 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	1,680	650 0 0	6,000 0	690 0 0	30 0 0	1,370 0 0	345	1,075	1,420
Or per mile of railway ...	50	19 0 0	180 0	20 0 0	...	39 0 0*	...	...	...
For previous 24 weeks of half-year† ...	59,618	20,127 0 0	163,279 0	18,848 0 0	2,514 0 0	41,489 0 0	7,677	20,347	21,023
Total for 25 weeks ...	61,298	20,777 0 0	169,339 0	19,538 0 0	2,544 0 0	42,559 0 0	8,022	19,491	27,443
COMPARISON.									
Total for corresponding week of previous year ...	1,474	534 0 0	11,879 0	1,041 0 0	112 0 0	1,707 0 0	170	646	1,126
Per mile of railway corresponding week of previous year ...	44	17 0 0	358 0	31 0 0	1 0 0	49 0 0	...	...	...
Total to corresponding date of previous year ...	62,414	17,820 0 0	219,285 0	21,388 0 0	3,336 0 0	42,544 0 0	7,755	21,903	29,745

* Excluding coaching ferry.

† Audited up to 13th October 1900.

‡ Includes Ballast Train miles 770.

MYMENSINGH-JAGANNATHGANJ RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 22nd December 1900 on 53.37 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	9,230	2,120 0 0	17,295 0	1,016 0 0	10 0 0	3,140 0 0	1,120	412	1,532
Or per mile of railway ...	173	40 0 0	324 0	19 0 0	...	59 0 0	...	...	...
For previous 24 weeks of half-year* ...	219,090	51,654 0 0	456,477 0	31,252 0 0	776 0 0	83,682 0 0	26,617	12,527	39,144
Total for 25 weeks ...	228,230	53,774 0 0	473,772 0	32,268 0 0	786 0 0	86,823 0 0	27,737	12,939	40,676
COMPARISON.									
Total for corresponding week of previous year ...	7,934	1,896 0 0	4,018 0	232 0 0	28 0 0	2,156 0 0	932	601	1,533
Per mile of railway corresponding week of previous year ...	147	35 0 0	74 0	4 0 0	1 0 0	40 0 0	...	...	...
Total to corresponding date of previous year ...	113,343	25,569 0 0	148,183 0	7,732 0 0	259 0 0	33,551 0 0	17,369	12,507	29,876

* Audited up to 13th October 1900.

BRAHMAPUTRA-SULTANPUR RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 22nd December 1900 on 59 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coachins receipts.	Weight carried.	Receipts.			Coaching.	Merchan- dise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	6,120	1,760 0 0	15,640 0	1,750 0 0	30 0 0	3,540 0 0	1,330	365	1,695
Or per mile of railway ...	104	30 0 0	265 0	30 0 0	.....	60 0 0	.....	.....	.....
For previous 24 weeks of half-year ...	145,207	33,298 0 0	438,126 0	46,333 0 0	743 0 0	80,374 0 0	22,672	21,860	44,532
Total for 25 weeks ...	151,327	35,058 0 0	453,766 0	48,083 0 0	773 0 0	83,914 0 0	24,002	22,225	46,227
COMPARISON.									
Total for corresponding week of previous year ...	2,060	581 0 0	15,068 0	609 0 0	6 0 0	1,286 0 0	195	836	1,031
Per mile of railway corresponding week of previous year ...	81	24 0 0	528 0	28 0 0	.....	52 0 0	.....	.....	.....
Total to corresponding date of previous year ...	42,467	12,245 0 0	216,222 0	10,534 0 0	208 0 0	22,990 0 0	5,024	16,894	21,918

* Audited up to 13th October 1900.

BENGAL AND NORTH-WESTERN RAILWAY.

Approximate Return of Traffic for the week ending 22nd December 1900, on 1,162 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-haul.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchan- dise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 1,162 miles open ...	142,540	(a) 60,760	4,63,820	(b) 63,320	14,470	1,44,550	31,604	(c) 24,192	55,796
Or per mile of railway ...	122.67	52.29	399.16	54.03	12.45	124.40	.....	.....	.....
For previous 24 weeks of half-year ...	3,732,708	14,27,254	1,16,30,012	12,29,607	3,17,399	29,71,560	750,637	610,657	1,360,634
Total for 25 weeks ...	3,875,208	14,88,014	1,20,93,832	12,96,227	3,31,869	31,16,110	781,641	634,849	1,416,490
COMPARISON.									
Total for corresponding week of previous year on 1,085 miles open ...	158,123	60,643	6,21,471	75,869	14,563	1,59,475	27,460	(e) 27,929	55,389
Per mile of railway corresponding week of previous year ...	145.74	63.64	572.78	69.92	13.42	146.98	.....	.....	.....
Total to corresponding date of previous year ...	3,330,276	12,68,679	1,54,00,372	17,94,979	3,67,524	33,34,082	662,701	685,267	1,347,968

(a) Decrease under coaching is due to Melas at Ghats on account of lunar eclipse held in corresponding week of last year.

(b) " under Goods is due to the traffic last year being abnormal.

(c) Includes 4,348 miles of ballast trains run on open line.

(d) " audited figures up to week ending 10th November 1900.

(e) " 3,572 miles of ballast trains run on open line.

SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. & N.-W. RAILWAY.)

Approximate Return of Traffic for week ending 22nd December 1900, on 18 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchan- dise.	Total.
	No.	Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 18 miles open ...	1,783	309	12,039	380	118	807	127	125	252
Or per mile of railway ...	99.06	28.17	668.83	21.11	6.55	44.83	.....	.....	.....
For previous 24 weeks of half-year (a) ...	26,848	4,651	1,33,909	4,035	233	8,919	3,653	1,461	5,114
Total for 25 weeks ...	28,631	5,050	1,47,948	4,415	351	9,816	3,780	1,586	5,366
COMPARISON.									
Total for corresponding week of previous year on 18 miles open ...	1,436	282	4,816	145	17	444	204	46	252
Per mile of railway corresponding week of previous year ...	77.78	15.67	267.60	8.06	0.93	24.66	.....	.....	.....
Total to corresponding date of previous year ...	9,929	2,070	90,513	2,611	224	4,905	1,544	724	2,268

(a) Includes audited figures up to week ending 10th November 1900.

SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. & N. W. RAILWAY.)

Audited Return of Traffic for week ending 10th November 1900 on 18 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs. A. P.	Mds.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week on 18 miles open ...	2,618	391 4 1	5,295	113 2 10	16 9 0	520 15 11	207	81	288
Or per mile of railway ...	145'44	21 11 9	400'61	6 74 7	0 14 9	28 14 1	.....	.....	.....
For previous 17 weeks of half-year ...	10,283	2,526 13 0	81,313	2,253 5 0	70 0 0	4,850 2 0	9,076	834	9,910
Total for 19 weeks ...	18,901	2,918 1 1	86,608	2,366 7 10	86 9 0	5,371 1 11	2,883	915	3,798
COMPARISON.									
Total for corresponding week of previous year on 18 miles open.	852	140 14 1	10,294	253 6 0	1 8 0	401 12 1	170	82	252
Per mile of corresponding week of previous year.	47'33	8 2 7	571'89	14 1 2	0 1 4	22 5 1	.....	.....	.....
Total to corresponding date of previous year.	2,063	448 6 5	38,948	1,048 7 0	78 4 0	1,575 1 5	468	270	738

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	A.	P.	en.
Approximate earnings for the week ending 15th December 1900 ...	14,769	0	0	
Ditto for the corresponding period of 1899 ...	14,660	0	0	
Increase ...	109	0	0	
Receipts per mile for the week ending 15th December 1900 ...	289	9	5	
Ditto for the corresponding period of 1899 ...	287	7	3	
Increase ...	2	2	2	
Receipts from 1st July to 15th December 1900 ...	3,16,923	0	0	
Ditto for the corresponding period of 1899 ...	3,21,241	0	0	
Decrease ...	3,313	0	0	

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	A.	P.
Approximate earnings for the week ending 22nd December 1900 ...	13,187	0	0
Ditto for the corresponding period of 1899 ...	10,031	0	0
Increase ...	3,156	0	0
Receipts per mile for the week ending 22nd December 1900 ...	258	9	1
Ditto for the corresponding period of 1899 ...	196	11	0
Increase ...	61	14	1
Receipts from 1st July to 22nd December 1900 ...	3,30,115	0	0
Ditto for the corresponding period of 1899 ...	3,30,272	0	0
Decrease ...	157	0	0



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JANUARY 9, 1901.

OFFICIAL PAPERS.

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APPOINTMENT OF MEMBERS OF THE PROVINCIAL CIVIL SERVICE TO POSTS LISTED AS OPEN TO THAT SERVICE.

RESOLUTION—No. 5244A.

APPOINTMENT.

Dated Calcutta, the 24th December 1900.

READ—

The Resolution of the Government of India, in the Home Department, No. ^{P. Public} 1342—1352, dated the 21st April 1892, indicating the appointments in each Province as open to the Provincial Service.

Read also—

The notification of this Government, dated the 28th March 1893, declaring the number of appointments listed as open to members of the Provincial Civil Service in Bengal.

The following correspondence with the Government of India regarding the manner in which appointments are to be transferred to the Provincial Service.

Letter to the Government of India, Home Department, No. 1242A.D., dated the 9th June 1900.

Letter from the Government of India, Home Department, No. 512, dated the 17th August 1900.

Letter to the Government of India, Home Department, No. 2412A.D., dated the 15th September 1900.

Letter from the Government of India, Home Department, No. 916, dated the 13th December 1900.

In the notification, dated the 28th March 1893, it was announced that the following appointments in Bengal, for which members of the Civil Service of

India had hitherto been recruited, should thenceforward be posts to which members of the Bengal Provincial Service could properly be appointed, subject to the rules for the time being in force, under 33 Vic. Cap. 3, Section 6:—

- 6 posts of District and Sessions Judge.
- 4 posts of Collector and Magistrate of a district.
- 1 post of Junior Secretary to the Board of Revenue.
- 1 post of Under-Secretary to Government.

In addition to these posts, the following appointments, for which recruitment had hitherto previously been made in the Civil Service of India, were thrown open to the Bengal Provincial Civil Service and added to the existing grades of that service:—

2 posts of Joint-Magistrate of the first grade.	to be converted into	2 posts of Deputy Magistrate and Collector in the 3rd grade on Rs. 600.
2 posts of Joint-Magistrate of the second grade.	ditto	2 posts of Deputy Magistrate and Collector in the 4th grade on Rs. 500.
2 posts of Assistant Magistrate on Rs. 500 a month.	ditto	2 posts of Deputy Magistrate and Collector in the 5th grade on Rs. 400.
2 posts of Assistant Magistrate on Rs. 450 a month.	ditto	2 posts of Deputy Magistrate and Collector in the 6th grade on Rs. 300.

2. The effect of this notification was qualified by paragraph 6 of the Resolution of the Government of India, No. ^{9-Public} 1342-1352, dated the 21st April 1892, which declared that until all the existing statutory civil servants were provided for, either by promotion or by amalgamation with the Provincial Service, and until the prior claims of officers of the Civil Service of India had been satisfied, the posts thrown open to the members of the Provincial Service could not be transferred to that service.

3. Eight superior listed appointments became available to the members of the Provincial Service after the confirmation in superior posts of Indian Civilians appointed in 1888. All these appointments were, until recently, actually held by Statutory Civilians. The death of Mr. Nanda Krishna Bose, a Statutory Civilian holding one of these posts, has reduced the number to seven. One member of the Judicial Branch of the Provincial Service will now, with the sanction of the Government of India, be appointed a District and Sessions Judge of the third grade to make up the complement.

4. The confirmation in superior posts of all the Indian Civilians appointed in 1889 will admit of the appointment of two more members of the Provincial Service to superior listed posts. There are now two vacancies in the Executive Branch of the Indian Civil Service. The claims of the last officer of 1889 of this service will be satisfied by promotion in one of these vacancies. The other will be given to a member of the Executive Branch of the Provincial Service who, with the sanction of the Government of India, will now be appointed a Magistrate and Collector of the third grade.

5. The next vacancy occurring in the third grade of Magistrates and Collectors will be available for the appointment of another member of the Executive Branch of the Provincial Service, and the total number of ten superior posts of Magistrates and Collectors and District and Sessions Judges will then have been filled.

6. The eleventh post is that of a Joint-Magistrate of the first grade. It is now held by a Statutory Civilian, and cannot at present be converted into a Deputy Magistracy of the third grade.

7. The twelfth post is also one in the first grade of Joint-Magistrates. It will now be converted into a Deputy Magistracy of the third grade, as the most junior of the Indian Civilians appointed in 1891 has received promotion to the first grade of Joint-Magistrates.

8. The thirteenth post is equivalent to a Joint-Magistracy of the second grade, and it became available on the promotion of the last of the Indian Civilians appointed in 1892 to that grade. It will now be converted into a Deputy Magistracy of the fourth grade.

9. The fourteenth appointment is also equivalent to a Joint-Magistracy of the second grade. It will be converted into a Deputy Magistracy of the fourth grade when the most junior Indian Civilian of 1893 has received promotion to the second grade of Joint-Magistrates.

10. The fifteenth and sixteenth are posts equivalent to that of an Assistant Magistrate on Rs. 500. As all the Indian Civilians of 1893 and 1894 have reached that grade, two appointments will now be added to the fifth grade of Deputy Magistrates.

11. The seventeenth and eighteenth appointments are equivalent to that of an Assistant Magistrate on Rs. 450. One of these appointments was merged in the Provincial Service on the occasion of the transfer to that service of a Statutory Civilian since deceased. The other will now be transferred to the sixth grade of Deputy Magistrates.

12. To the two Secretariat posts, viz., the post of Junior Secretary to the Board of Revenue and the post of an Under-Secretary to this Government, the main and essential condition laid down by the Government of India applies with special force, *i.e.*, proved and absolute fitness. The proper performance of the duties of these posts, especially that of an Under-Secretary to this Government, requires exceptional qualifications, and appointment to them must be expressly guided by a regard to the efficiency of the public services.

13. The effect of the above orders will be that as soon as the sanction of the Government of India has been obtained two officers of the Provincial Service will be appointed by name to two superior listed posts: and a third will be appointed on the occurrence of the first vacancy. To inferior listed posts officers are not appointed by name, but an addition of five officers will immediately be made to the cadre of the Provincial Executive Service by promotion of officers to the various grades concerned.

ORDERED—That the Resolution be published in the *Calcutta Gazette*.

By order of the Lieutenant-Governor of Bengal,

J. A. BOURDILLON,
Chief Secy. to the Govt. of Bengal.

RESOLUTION ON THE PROGRESS REPORT OF FOREST ADMINISTRATION IN THE LOWER PROVINCES OF BENGAL FOR 1899-1900.

REVENUE DEPARTMENT—FORESTS.

Calcutta, the 5th January 1901.

RESOLUTION—No. 128For.

READ—

The Progress Report of Forest Administration in the Lower Provinces of Bengal for the year 1899-1900.

Read again—

The Progress Report of Forest Administration in the Lower Provinces of Bengal for the year 1898-99 and Government Resolution thereon.

Mr. A. E. Wild, who was in charge of the Bengal Forest Circle throughout the year, submitted his Report on the 10th November 1900, more than a month late.

The following statement shows the area of each class of forest in the circle:—

CLASS OF FOREST.	Area at commencement of the year.	Added.	Excluded.	Area at close of the year.	PERCENTAGE—	
					Of total forest area.	Of the area of the provinces (156,571 square miles).
1	2	3	4	5	6	7
Reserved ...	Sq. miles. 6,881	...	Sq. miles. ...	Sq. miles. 6,881	45	3.76
Protected ...	3,816	...	141	3,675	27	2.35
Unclassed ...	4,033	...	...	4,033	30	2.59
Total ...	13,730	...	141	13,589	...	8.69

2. No actual changes in the area of reserved forests were made during the year. The recent land revenue resettlement of the Khurda Government Estate shows an excess of 1,833 acres, and of 51,725 acres in the area of the reserved and protected forests, respectively, of the Puri Division, but the reasons for this not having been given, no actual alteration has yet been made in the figures. In the Sundarbans 141 square miles of protected forests were transferred to be converted into cultivation. The transfer of the Saoria tract of the Sonthal Parganas under the Deputy Commissioner will shortly be effected.

3. *Settlement.*—The Lieutenant-Governor notices with regret, since the reasons given for the delay are not satisfactory, that the settlement of the area in the Chittagong Forest Division has not yet been completed. The work was started as far back as 1897-98, and he trusts that it will be ready for notification within the current year.

The recent proposals of the Board of Revenue that certain blocks should be set aside as fuel and fodder reserves in the Jalpaiguri district as protected forests, and placed under the control of the civil authorities, are under consideration of Government. According to the approved programme of operations spread over a period of ten years, the Imperial Forest Survey Branch began work in December in the Singhbhum Division. In future reports the Conservator should state what was the programme for the year and, in case it was not worked up to, what were the reasons for the deficiency. It is reported that the progress made so far was not very encouraging, as there are to be two parties at work during the coming season, more check and supervision are required.

The total length of boundaries as yet defined stands at 5,186 miles. The Lieutenant-Governor trusts that during the ensuing year forest officials will bear in mind the importance of carefully inspecting forest boundaries, a duty which appears to have been overlooked in many divisions.

4. *Working-plans.*—Of the total forest area in Bengal, viz., 13,589 square miles, working-plans for 5,320 square miles have been either completed or are being compiled, and 8,269 square miles still remain to be dealt with. The latter area includes 4,033 square miles of unclassified forest of Chittagong. Owing to the unfortunate illness of Mr. Hatt, who had nearly finished the working-plans for the Puri Division (110 square miles), and of the tardy progress made by the Forest Survey Party in Singhbhum, which delayed Mr. Haines, who had in hand the working-plan (731 square miles) of that Division, no plans were completed during the year. Here also the Lieutenant-Governor would request that in future years details be given showing what was the programme for the year and to what extent it was worked up to with reasons for any shortcomings. The table showing the comparative strength of the staff, area and percentage under working-plans for the three provinces of Bengal, North-Western Provinces, and Central Provinces, submitted by the Conservator, is interesting; but the figures for the areas under working-plans in the Central Provinces do not tally with those given last year. Speaking generally, the comparison as to strength of establishment is not very disadvantageous to Bengal, and the Lieutenant-Governor is compelled to repeat that Bengal has hitherto failed to realise the great value of working-plans. It is so far satisfactory, however, to see that the importance and necessity of the work are now fully understood, for there is no part of the Forest Officer's duties of greater importance than the preparation of working-plans for the forests in their charge. Without them a new Forest Officer is helpless in his charge; and Government has no check on the proper working of any forest.

But it does not appear that the Conservator's arrangements for carrying out these operations are as yet properly organized, since they seem to rest on the chance of securing the services of special officers for this work alone. The matter will be dealt with when orders are passed on the report which has lately been called for giving, in the order of urgency, the Forest Divisions, for which working-plans or revision of existing working-plans are required during the next five years. The Conservator has now had a material addition made to his superior staff, and the work must be taken energetically in hand.

5. *Buildings and Communications.*—The following statement shows the expenditure on roads and buildings in 1898-99 and 1899-1900 and the budget estimates for the latter year:—

DESCRIPTION OF WORK.	BUILDINGS.			ROADS AND BRIDGES.			TOTAL.		
	Actuals of 1898-99.	Budget estimates of 1899-1900.	Actuals of 1899-1900.	Actuals of 1898-99.	Budget estimates of 1899-1900.	Actuals of 1899-1900.	Actuals of 1898-99.	Budget estimates of 1899-1900.	Actuals of 1899-1900.
1	2	3	4	5	6	7	8	9	10
New construction ...	Rs. 23,433	Rs. 28,480	Rs. 18,252	Rs. 10,205	Rs. 24,120	Rs. 14,895	Rs. 33,638	Rs. 52,600	Rs. 33,147
Repairs ...	11,146	12,549	9,904	8,902	10,300	7,358	20,048	22,900	17,703
Unapportioned ...	1,160	1,080	1,147	123	320	264	1,283	1,400	1,411
Total ...	35,739	42,109	29,303	19,230	34,800	22,517	54,969	76,900	51,820

The budget estimates were not worked up to, partly owing to several works not having been taken up and partly to the diversion of the allotment to other purposes.

The chief new buildings constructed during the year were the Sonthal Parganas head-quarters house and three revenue station-houses in the Sundarbans.

Eighty-four miles of new roads and paths were made during the year as against 57 in the previous year, and repairs were carried out along 787 miles of road, the corresponding figures for 1898-99 being 842. Of the new roads, 35 miles were for facilitating export and 49 miles were for inspection purposes. The experiment of erecting a wire rope-way in the Tista Division was a failure owing to the curves encountered, and the line will have to be re-erected on the usual plan of straight lengths.

6. *Breaches of Forest Law.*—Three hundred and fifty-five cases were taken into Court during the year under report as against 307 in 1898-99. This increase occurred mainly under "fire cases" in the Singhbhum Division and under "other offences."

Of the cases disposed of, 88 per cent. ended in conviction as against 90 in the previous year. Prosecutions were instituted in 50 cases for offences with regard to fire, of which 38, involving 45 persons, ended in conviction, and 5, involving 18 persons, resulted in acquittal. The remainder were pending at the end of the year. Of the total cases of this kind, 28 occurred in Singhbhum, 9 in Palamau, 5 in Angul, 3 in Jalpaiguri, 2 in Chittagong, 1 in Darjeeling, 1 in Puri, and 1 in the Sonthal Parganas.

The sentences awarded in fire cases have been generally of a much more deterrent nature than was the case during the previous year, and the Lieutenant-Governor agrees with Mr. Wild that, "considering the difficulty in most fire cases of procuring any evidence at all, whenever convictions are obtained, the punishment ought in all cases to be exemplary." The Lieutenant-Governor looks to the Conservator to bring promptly to the notice of Government any case in which, in his opinion, the punishment awarded has been inadequate. The Government of India, as noted in last year's Resolution, asked if amendments were not required in the Indian Forest Act for the better protection of forests from fires and the punishment of incendiarism; proposals have accordingly been submitted by the Conservator to alter the existing law and to make villagers jointly responsible for fires.

The number of cases compounded by Forest Officers amounted to 1,946, involving 3,962 persons as against 2,057 cases, involving 4,018 persons in the previous year. The amount received as compensation was Rs. 12,176, Rs. 791 less than the amount in the previous year. In the Sundarbans, the compensation accepted is usually high, as the cases are mostly of a more serious nature than in other Divisions, for the offenders carry off the wood in boat-loads, whereas elsewhere the thefts are chiefly confined to the quantity that can be carried on a man's head. Omitting this Division, the compensation received for each person involved varied between 8 annas 7 pies in Singhbhum and Rs. 7-3-9 in Buxa. The total number of offences decreased from 2,487 to 2,483, and of these, the Darjeeling Division contributed 446 cases, while the Tista, Sonthal Parganas, Puri, and the Sundarbans Divisions contributed over 300 cases each.

7. *Forest fires.*—Protective measures against fire were taken for 2,111 square miles, of which 194 square miles, or 9 per cent. of the entire protected area, were burnt, as against 2 per cent. in 1898-99 and 27 in 1897-98. This increase was, to some extent, to be expected owing to the early setting in of the hot weather.

Although a far larger area was burnt than during the previous year, yet, looking at past results, the general result of the year under report was fairly satisfactory, and the Conservator points out that the accustomed alternation of good and bad years, which has been the rule since 1890-91, has been broken. The Lieutenant-Governor agrees with the Conservator that some praise is due to the officers of the Department for this improvement.

Singhbhum again heads the record, having had 134 square miles burnt, and the fires there in 1899-1900 were worse than in 1898-99. In consequence of the many and severe fires in the early part of the season in the Saitba block of this Division, the burnt areas in that block were closed to grazing for three years as a punishment for malicious and careless firing.

8. It would appear that for the Circle 92 fires as against 62 in the previous year were intentionally fired, damage being done to 101,365 acres as against 40,545 in 1898-99. Prosecutions were instituted in 14 of these cases, of which 10 ended in conviction, 2 resulted in acquittal, and 2 were pending at the close of the year.

9. *Grazing.*—Four hundred and seventeen square miles of reserved forests were open to all animals, as against 393 square miles in the previous year, the increase of 24 square miles being due to areas previously closed in the Darjeeling and Kurseong Divisions being thrown open during the year under report. As in the previous year, 1,722 square miles of protected forests remained open during 1899-1900. The average area per head of cattle grazed in the reserved forests was 5.7 acres as compared with 5.5 acres in the year before. In the protected forests, excluding Angul, which is under the management

of the Deputy Commissioner, and for which no returns have been furnished, the acreage per head (2·5) was practically unchanged, though the revenue increased by Rs. 910 to Rs. 84,941 owing to better collections in the Puri Division. With regard to grazing, no change has been made in the method or system.

10. *Yield and outturn of forest produce.*—The following statement gives details of the forest outturn of the year:—

Class of forest and agency by which produce was removed.	Timber.	Fuel.	Total wood.	Bamboos.	Minor produce.
1	2	3	4	5	6
<i>Reserved.</i>	C. ft.	C. ft.	C. ft.	C. ft.	Rs.
Government ...	186,799	155,740	342,539	17,148	2,682
Purchasers ...	5,689,564	15,194,638	20,884,202	9,769,908	1,24,875
Free-grantees ...	11,143	22,038	33,181	...	1,363
Right-holders ...	.....	910,157	910,157	966,400	12,312
Total ...	5,867,506	16,282,573	22,150,079	10,753,456	1,41,232
<i>Protected.</i>					
Government ...	38,636	3,981	42,517	539,441	1,701
Purchasers ...	699,978	3,835,694	4,435,672	101,090	47,777
Free-grantees ...	1,624	729	2,353	2,300	2
Right-holders ...	230,665	14,380,835	14,611,500	4,000,000	1,23,374
Total ...	970,803	18,221,239	19,192,042	4,642,831	1,72,154
<i>Unclassed.</i>					
Government ...	21,290	1,363	22,659	25,960	3
Purchasers ...	480,232	60,642	540,874	5,611,886	8,657*
Free-grantees ...	491	.....	491	1,500	...
Right-holders ...	.....	.....	.....	.....	.....
Total ...	502,013	62,011	564,024	5,639,346	8,660
Grand total in 1899-1900	7,340,322	34,565,823	41,906,145	21,035,633	3,22,746
Ditto in 1898-99 ...	6,420,306	32,248,935	38,669,241	20,744,794	2,90,016
Difference in 1899-1900 ...	+ 920,016	+ 2,316,888	+ 3,236,904	+ 290,839	+ 32,730

* Includes Rs. 2,108 collected from Hill Tippera (for two years).

The gross outturn under all heads was much greater than in the previous year, and considering that the gross yield of the year 1898-99 itself had been considerably larger than in 1897-98, this result is very satisfactory. The Sundarbans Division gave the largest increase, the timber and fuel there exceeding those of the previous year by 693,867 cubic feet and 2,316,888 cubic feet, respectively, and the Departmental Officers are reported to have shown much energy in exploiting the produce of this Division and taking advantage of a brisk demand.

Singhbhum also showed a considerable improvement in its yield of timber, but fell off considerably in its fuel outturn, as also did Angul.

11. *Financial Results*—The following statement shows the financial results during each of the last six official years:—

Financial year.	Receipts.	Charges.	Net revenue.
	Rs.	Rs.	Rs.
1894-95 ...	7,95,673	3,98,601	3,97,072
1895-96 ...	9,18,709	4,66,058	4,52,641
1896-97 ...	13,70,849	6,90,042	6,80,807
1897-98 ...	11,89,285	6,53,437	5,35,848
1898-99 ...	9,72,313	4,86,319	4,85,994
1899-1900 ...	11,38,912	5,45,205	5,93,707

For the purposes of comparison the Conservator eliminates the years 1896—98 as exceptional owing to the extensive sleeper operations in Singhbhum, but this the Lieutenant-Governor cannot agree to, since in his opinion there must yearly be a large demand for sleepers on the part of the railway companies, which it is the duty of the Forest Department to meet or to explain to the satisfaction of Government their inability so to do.

12. The following table shows the result of the last two financial years, division by division:—

DIVISION.	RECEIPTS.		CHARGES.		SURPLUS.		DEFICIT.	
	1899-1900.	1898-99.	1899-1900.	1898-99.	1899-1900.	1898-99.	1899-1900.	1898-99.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	3,573	13,506	43,879	39,660	...	...	403,06	26,154
Darjeeling	79,093	79,969	70,571	69,647	8,522	10,322	...	...
Tista	28,704	22,828	31,066	23,675	...	...	2,362	847
Kurseong	42,958	39,021	31,275	33,796	11,683	5,225	...	...
Jalpaiguri	55,722	49,127	34,301	23,459	21,421	25,068	...	...
Buxa	26,722	16,441	30,515	23,752	...	...	3,738	7,311
Sontal Parganas	43,262	22,760	30,415	17,364	12,847	5,396	...	...
Hazaribagh	19,195	...	3,730	...	15,465	...	...	...
Palamau	2,775	3,429	12,828	11,890	...	...	10,053	8,451
Singhbhum	62,660	40,745	67,949	45,812	...	...	5,289	5,097
Angul	4,922	3,912	13,694	15,286	...	...	8,772	11,374
Puri	32,246	25,084	26,550	26,093	5,696	...	...	1,009
Sundarbans	6,30,639	5,57,120	96,679	1,10,480	5,33,960	4,46,640	...	...
Chittagong	1,06,381	98,371	51,753	46,375	54,628	52,996	...	...
Total	11,38,912	9,72,313	5,45,205	4,96,319	6,64,222	5,46,247	70,515	50,253
Net surplus ... ..	...	...	...	...	5,93,707	4,85,994	...	...

The Lieutenant-Governor regrets to find that no improvement was made in the Tista, Buxa, Palamau, Singhbhum, and Angul Divisions, which again worked at a loss during the year under report. It is explained that in Singhbhum there would have been a small surplus, but for the expenditure of Rs. 12,113 on surveys, and that the deficit in Tista was due to the inability to dispose of the sleepers prepared there, in consequence of the breaks in the Tista Valley road. In the Buxa Division operations, it is said, are retarded owing to the climate, which prevents the Department from securing reliable workmen, but the Conservator thinks that there will be a profit in the coming year. Improvement in Angul is also promised though for what reason is not stated. In reviewing the report of the previous year, the Government of India expressed the opinion that no forest division in Bengal, except the Direction Division, should show a deficit, and they agreed with the Lieutenant-Governor in considering that more energy was required on the part of Divisional Forest Officers in seeking and developing markets for the many products of the Bengal forests.

The Conservator reports that a certain zeal in the direction of opening out new markets has now been aroused among the officers of the Department, but that none have shown any special aptitude for commercial undertakings. His Honour desires that the Conservator will impress upon all officers that unless they eagerly seek every chance of exploiting the forest produce and bringing the products to the knowledge of purchasers, instead of waiting for purchasers to approach them, they have failed in one of the essential duties of a forest officer.

The answers given by the Conservator with reference to the questions asked concerning the supply of sleepers to the Cooch Bihar, Barun-Daltonganj and Bengal-Duars Railways do not show that it was impossible for the Department to furnish the necessary timber.

The Lieutenant-Governor is glad to notice the successful and profitable introduction of Departmental operations in the matter of the collection and disposal of certain minor products, viz., India-rubber in the Kurseong Division, myrabolams in the Singhbhum Division, and the fruit of the *strychnos nux vomica* in the Puri Division; and he is obliged to Mr. Wild for the trouble he has taken in the improvement of this branch of the administration. That the departmental

cultivation of lac in the Palamau forests has, owing to want of zeal, been so far a failure, is most regrettable, and the Lieutenant-Governor trusts that the Conservator will see that this want of energy on the part of local officers is promptly remedied: there would appear to be no reason why this cultivation should not be as successful as others, and it is trusted that next year's report will show better results. It is satisfactory also to note that the right to cut *sabai* grass in the Singhbhum reserves, which had been leased for three years in 1897 at a total rent of Rs. 30,000, was resettled in April 1900, for a further term of three years for a sum of Rs. 1,26,000.

The state of the mica industry in Hazaribagh continues to be disappointing, and the Conservator thinks that it is impossible to exercise much departmental check of the data on which the royalty on mica is calculated without a large increase of establishment. A revision of the mica mining rules is now under the consideration of Government.

13. *Miscellaneous*.—Since the close of the year three new appointments have been sanctioned by Her Majesty's Secretary of State, viz., one Deputy Conservator, first grade, another of the third grade, and one Assistant Conservator, second grade.

Considerable damage was done to the forests around Darjeeling by the unusually heavy storm and rainfall of the 24th and 25th September 1899. There was a formidable landslip on the Setikhola Jhora, and the torrents in the Tista river and its tributaries, the Rangit and the Bara Rangit, brought down large deposits of silt and washed away low-lying strips of forest on their immediate banks, and a bed of silt was formed in the Apalchand forest in Jalpaiguri. It is estimated that 463 acres of forest in the Darjeeling Division, and some 450 out of 600 acres in the bed of the Balasun river have been lost. The damage to roads and paths was extensive in the three hill Divisions of Darjeeling, Kurseong, and Tista.

The present report is full and in view of the remarks passed last year by the Government of India, it should if possible have been curtailed. This subject, however, is now under consideration, and the Lieutenant-Governor is awaiting the opinion of the Conservator on the suggestion made by the Government of India in their Circular No. 7F., dated the 18th September 1900, for the shortening of the Report.

14. In thanking Mr. Wild for his administration generally and for the large increase he and his officers have obtained in the departmental surplus, the Lieutenant-Governor desires that two points may be very closely kept in view during the ensuing year: the vital importance of pushing on the preparation of working-plans and the keen exploitation of forest products.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,

Secretary to the Government of Bengal.

PROGRESS OF EDUCATION IN BENGAL DURING 1899-1900.

GENERAL DEPARTMENT—EDUCATION.

Calcutta, the 8th January 1901.

RESOLUTION—No. 115.

READ—

The Report on Public Instruction in Bengal for the year 1899-1900.

THE report submitted by Mr. Pedler, F.R.S., who has held charge of the Education Department throughout the year, reached Government with a punctuality which was the more commendable that his time has been much engrossed in the reports called for by the Government of India on the various points raised by Mr. J. S. Cotton in his quinquennial Review on Education.

2. *Number under instruction.*—The following table shows the number of colleges and schools in Bengal and the number of pupils in them at the end of the years 1898-99 and 1899-1900 :—

CLASS OF INSTITUTION.	1898-99.		1899-1900.		Average number of pupils.	
	Schools.	Pupils.	Schools.	Pupils.	1899.	1900.
1	2	3	4	5	6	7
PUBLIC INSTITUTIONS—						
University Arts Colleges	39	7,204	44	7,868	184.7	178.5
... .. High English schools	428	95,529	471	1,07,322	223.2	229.7
Secondary Middle ditto	971	72,207	950	69,293	74.3	72.9
... .. Do. vernacular schools	1,034	60,202	1,045	57,039	55.0	54.6
Primary Upper primary schools	4,240	174,161	4,309	177,253	41.0	41.1
... .. Lower ditto	44,082	1,061,636	43,809	1,067,879	24.0	24.4
Special (including Madrasahs and institutions for professional training).	394	13,587	504	16,188	34.4	32.1
Female	2,775	61,817	2,759	62,576	22.2	22.7
Total	54,023	1,546,243	53,891	1,566,018	28.6	29.0
PRIVATE INSTITUTIONS—						
(1) Advanced, teaching—						
(a) Arabic or Persian	1,398	18,672	1,282	16,439	13.3	12.8
(b) Sanskrit	1,412	13,100	1,351	12,259	9.2	9.1
(2) Elementary, teaching a vernacular only or mainly—						
(a) With ten pupils and upwards	715	10,603	709	11,306	14.9	16.1
(b) With less than ten pupils	3,291	21,079	3,226	20,565	6.4	6.4
(3) Elementary, teaching the Koran only	4,113	56,461	4,090	57,847	13.7	14.2
(4) Other schools not conforming to the departmental standards.	149	2,537	134	3,071	17.0	22.9
Total	11,078	122,542	10,762	121,577	11.1	11.3
GRAND TOTAL	65,101	1,668,785	64,653	1,687,595	26.6	26.1

The number of educational institutions decreased during the year from 65,101 to 64,653, the decrease being mostly with regard to private institutions, but the pupils attending them increased by 18,810.

3. A comparison with the figures from 1891 shows an almost continuous increase in the number of pupils with a yearly variation in the number of schools due to the appearance and disappearance of what may be called venture institutions.

An examination of the figures in the table above shows the continued tendency of Arts Colleges and high English schools to gain in popularity, whereas the middle English schools and middle vernacular schools are year by year losing ground. The reason is not far to seek, and lies undoubtedly in the prevailing but short-sighted opinion of parents that the future success of their children precludes any expenditure of time in gaining a knowledge of their

vernacular. This state of affairs raises the question whether the curriculum of the higher schools should not be modified in order to ensure that in the lower classes boys shall obtain a competent knowledge of their own language and the matter has just been dealt with in a separate Resolution.

Primary schools have shown noticeable vitality; the upper section records a gain of 69 schools and 3,091 pupils; the lower section also, though the actual number of schools has decreased, shows a satisfactory increase of 6,323 pupils. The Lieutenant-Governor notices with pleasure the rapid growth of special schools, and concurs with the Director, who says regarding them—

The increase of 27·9 per cent. in the schools and 19·1 per cent. in the pupils would tend to prove that the people of Bengal are waking up to the fact that a general training, or, in the higher stages, a literary education, leading solely up to the Calcutta University examination alone, does not represent the sum total of education, and that other special forms of education really are beginning to offer better prospects of advancement in life.

This is the beginning of a movement which must largely influence the development and prosperity of the province, and which is the more hopeful, because its growth is spontaneous. Female education has during the year shown no marked sign of improvement, but the actual number of pupils has risen by 1·2 per cent. There are many obstacles which retard the education of girls, and there is at least no retreat.

4. *Ratio of pupils to population.*—The percentage of boys of a school-going age and similarly of girls for the whole of the Province, excluding Cooch Bihar, Hill Tippera, and the Tributary State of Chota Nagpur, to the numbers actually at school, is 28·9 and 1·9 per cent., respectively, as against 28·6 and 1·9 last year. There are, however, great differences in the degrees of educational progress attained in the various districts and divisions, Midnapore returning 60·4 per cent. and Purnea only 13·2. The poorer the districts the lower the number of boys at school. With the exception of Patna, all the Bihar districts rank very low in the list.

5. *Schools classified according to management.*—The following table classifies the colleges and schools according to their management:—

CLASS OF INSTITUTIONS.	1899.		1900.	
	Schools.	Pupils.	Schools.	Pupils.
1	2	3	4	5
PUBLIC INSTITUTIONS.				
<i>Under Public Management.</i>				
Managed by Government	170	25,547	172	26,301
Do. by District or Municipal Boards.	200	13,800	200	13,676
<i>Under Private Management.</i>				
Aided by Government or by District or Municipal Boards.	38,641	1,164,193	38,993	1,188,149
Unaided	15,012	342,703	14,526	337,892
Total	54,023	1,546,243	53,891	1,566,018
PRIVATE INSTITUTIONS.				
Of indigenous instruction	11,078	122,542	10,762	121,577
GRAND TOTAL	65,101	1,668,785	64,653	1,687,595

Owing to the transfer of the reformatory schools at Alipur and Hazaribagh from the Jail to the Education Department, the establishment of a Survey School at Angul, and the transfer of the Siliguri Middle Vernacular School in the Rajshahi Division to the aided list, there was a net increase of two in the institutions managed by Government. The schools managed by District or Municipal Boards remained stationary. Of schools under private management, the unaided class decreased by 486, which was, however, attended by an increase of 352 in the aided class—results which indicate that success is attending the efforts now being made to bring these schools under inspection and to introduce method and system in their work.

6. *Financial results.*—The net expenditure on education for the last two years is compared in the following table :—

HEAD OF CHARGE.	1898-99.				1899-1900.			
	NET EXPENDITURE AFTER DEDUCTING RECEIPTS—				NET EXPENDITURE AFTER DEDUCTING RECEIPTS—			
	From Provincial Revenues.	From District funds.	From Municipal funds.	Total expenditure.	From Provincial Revenues.	From District funds.	From Municipal funds.	Total expenditure.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
University ... ..	...	...	...	1,74,268	...	...	...	1,83,111
Collegiate	4,60,328	...	...	10,92,176	4,63,457	...	...	11,26,263
Secondary	4,13,408	2,10,836	18,172	33,43,371	4,13,462	2,18,758	16,089	34,45,886
Primary	1,62,173	5,03,315	52,050	29,53,338	1,65,630	5,13,718	51,565	30,06,087
Female	1,75,435	33,886	9,091	6,71,946	1,79,135	37,828	9,378	6,43,715
Special	2,97,176	30,404	2,821	5,21,722	3,24,042	19,073	3,352	5,79,300
Scholarships	1,73,073	29,328	333	2,37,065	1,66,211	30,900	327	2,31,694
Buildings	1,58,906	3,898	2,903	5,09,596	1,85,712	4,637	3,103	5,51,965
Furniture	12,353	2,521	566	62,845	11,936	2,052	420	63,644
Miscellaneous	63,198	65,339	6,838	8,31,780	61,238	61,596	4,707	8,28,667
Superintendence	4,49,016	2,67,807	3,003	7,23,689	4,44,678	2,82,818	3,409	7,35,238
Total	23,74,226	11,37,424	94,877	1,11,12,006	24,17,501	11,71,380	92,440	1,13,94,558
		30,06,527				30,81,321		

An examination of the figures in the table shows that the total expenditure from Provincial Revenues rose by Rs. 43,275, or by 1·8 per cent., and from District Funds by Rs. 33,956, or 2·9 per cent., while that from Municipal Funds fell off by Rs. 2,437, or by 2·6 per cent. The total expenditure from all the public funds taken together shows an increase of Rs. 74,794, or 2·1 per cent. In the preceding year the expenditure from the public funds had decreased by 2·4 per cent. Thus the expenditure from the public funds during the year under review is approximately the same as that of 1897-98.

The expenditure from private sources rose from Rs. 75,06,379 to Rs. 77,13,237, or by 2·8 per cent. Expenditure from Provincial Revenues decreased under the heads of "Collegiate" education, Scholarships, and Superintendence; but there was a considerable increase in the aid to "Special" education.

7. *Inspection tours.*—Mr. Pedler was on tour for 63 days out of Calcutta in addition to 16 days occupied in attending the Conference held in Simla under the orders of the Government of India for the consideration of the scheme in connection with the establishment of a Research University by Mr. Tata, of Bombay. The Lieutenant-Governor is pleased to see that the Director was able to give so considerable an amount of time to seeing for himself on the spot the working of the institutions under him—a duty of the highest value for effective guidance and control.

The time spent on inspection by the inspecting staff of the Province is shown and compared for the past two years in the following statement :—

CLASS OF OFFICERS.	1898-99.		1899-1900.	
	Number of officers.	Average number of days on tour.	Number of officers.	Average number of days on tour.
1	2	3	4	5
Inspectors	7	153	7	152
Inspector of European Schools	1	90	1	58
Inspectress of Girls' Schools	1	35	1	53
Assistant Inspectors	10	172	10	172
Deputy Inspectors	50	180	51	176
Sub-Inspectors	209	212	212*	214

* Including one officer whose work being confined to Calcutta has been left out of consideration in calculating the average in column 5.

The Director has reviewed in detail the work done by the Inspecting officers of all classes, and reports that they have generally performed their inspection duties satisfactorily. There has been an improvement in the work of the Inspectress of Schools for Girls which was unfavourably commented on last year.

Mr. Pedler states that the Inspectors as a class have done their work well, but it is noticed that Mr. Bamford, the Inspector of European Schools, was on tour for only 45 days out of 349 days he was on duty. No explanation of this has been given, and His Honour must ask that a much larger amount of time be spent by the Inspector in visiting the schools under him.

In a previous Resolution a desire was expressed by Government that those Assistant Inspectors of Schools who had very little office work to do should remain away from their head-quarters for about 180 days, and that the tour of Assistant Inspectors of Schools for Muhammadan Education should not be permitted to fall below this limit. These directions were during the year under review practically complied with, except in the case of Maulvi Muhammad Ibrahim, Assistant Inspector of Muhammadan Schools, Rajshahi and Burdwan Divisions, for which no explanation has been given.

Opinions differ as to the character of the work done by the Inspecting pandits; but on the whole their work cannot be considered a success. In some districts they are reported to have done their work satisfactorily, while in others they are reported to be men of inferior qualifications. The Conference of Educational officers which met in January 1900 recommended that these officers should be chosen from pupils who have passed at least the second-year examination of a first grade training school—a matter which is now awaiting a further report from the Director.

8. *District Boards.*—The Lieutenant-Governor is glad to learn that the District Boards have worked in harmony with the officers of the Education Department, and that the suggestions and recommendations of the Deputy Inspectors generally received due consideration. From the Burdwan Division complaints are made of delay in the payment of school grants, salaries and scholarships; this should be looked to. And it is to be hoped that the District Board of Puri will in future be more careful in their choice of examiners.

In some districts Local Boards have been entrusted with the administration of the primary fund and the control of primary education; in others they have no educational functions at all. Some of the Local Boards are reported to have performed their duties fairly. The Lieutenant-Governor has no doubt that especially with judicious guidance the Local Boards may be made most useful auxiliaries in the promotion of primary education.

9. *Municipal Boards.*—In this Government's Circular No. 1, dated the 11th January 1893, Municipalities were directed to provide for the education of half the male school-going population within their areas at the rate of ten annas per pupil. From the Director's report it appears that the wishes of Government were not given effect to in some cases, and that the distribution of the allotment, when made, was injudicious and unfavourable to the growth of primary education. It is hoped that Commissioners and District Officers, with whom the ratification of the estimates of Municipal Boards lies, will see that the obligation imposed upon Municipalities is fulfilled as far as possible.

10. *University Education.*—There were 44 Arts Colleges working in Bengal during 1899-1900 as against 39 in the previous year. Of these, 11 were maintained by Government, 1 was maintained by the Midnapore Municipality, 7 were in receipt of aid from Government, and 25 were unaided institutions. The number of aided colleges increased by 2 and of unaided colleges by 3. The net increase of five colleges is explained by the abolition of one of the old colleges on the one hand and on the other by the opening of four new colleges and the resuscitation of two others after a period of suspended animation.

The number of students attending Arts Colleges increased from 7,204 to 7,868, that is, by 664, the increase occurring in both aided and unaided colleges. In the Government colleges the numbers were practically the same as in the previous year, the figures for which were considerably in excess of the average of the three preceding years. The attendance at the Hooghly College, which has been steadily declining during the last five years,

showed no further decrease. The report called for on this subject in last year's Resolution is awaited. The increasing attendance at the Bethune College for girls affords grounds for congratulation, and the great success achieved by the pupils is commented on below.

11. *Cost of College education.*—The total expenditure on collegiate education increased from Rs. 7,32,690 to Rs. 7,43,542; that on Government colleges decreased by Rs. 8,680, while the expenditure on the aided and the unaided colleges increased by Rs. 8,653 and Rs. 10,773, respectively.

The maintenance of the 11 Government colleges cost Rs. 3,71,401, of which Rs. 1,73,187 were contributed from Provincial Revenues, Rs. 1,85,397 from fees, and Rs. 12,817 from endowments. The expenditure from Provincial Revenues decreased by Rs. 10,869, while that from fee-receipts increased by Rs. 2,187.

Without counting the Martinière College for girls, which has not furnished returns of expenditure, the grant from Provincial Revenues to the aided colleges amounted to Rs. 23,400.

Although during the last four years the charge on Provincial Revenues under this head has decreased by Rs. 99,036, yet even now nearly 47 per cent. of the total cost of educating each student in a Government college is borne by the State. The decrease which has been effected is not wholly permanent, being due in part to the accidental absence of many of the higher paid Professors.

12. *Success at University Examinations.*—The total number of candidates for the First Arts examination of 1900 was 3,037, or 241 more than in the preceding year. Of these, 1,142 passed, the percentage of success very slightly declining. The Government colleges passed 50 per cent. of their pupils as against 48, and the aided and unaided colleges 37 and 33 per cent., respectively, as against 46 and 33 in the previous year. The Bethune College for girls deserves especial commendation, since all of the ten candidates sent up were successful. The Lieutenant-Governor is pleased to see that the Calcutta Madrasa, which last year was the lowest, is now second in the percentage test, a success, however, which must in part be attributed to the training students received at the Presidency College. Amongst the aided colleges His Honour is gratified to see the newly-opened Dublin University Mission College at Hazaribagh passed 9 students out of 11 sent up.

For the B.A. examination there were 1,667 candidates, of whom 461 passed. The literary proved, as usual, more popular than the science subjects, and 1,041 candidates presented themselves for examination in the former, 626 in the latter. The percentage of success was approximately the same in both divisions, 27 and 28 per cent., respectively. Of 72 names on the Honours lists, 43 are of students belonging to Government colleges, 16 of students of aided colleges, and 13 of students of unaided colleges. The last class of institutions judged by the results appear to limit their energies chiefly to securing pass degrees. The Presidency College passed five out of the six candidates who obtained a place in the first division in Honours. There has been some slight improvement in the Hooghly College, but in the large college of Dacca the results continue very disappointing. It would appear that the staff at this college needs strengthening.

The number of candidates for the M.A. examination rose from 162 to 206, and the number of passes from 63 to 92, the percentage of success being 44.6 as against 38.9 in the preceding year. There were 111 candidates for the examination in English, 21 for Philosophy, 23 for Mathematics, 32 for Scientific subjects, 11 for Sanskrit, 2 for Persian, and 6 for History. Of the 58 who passed from Government colleges, 50 came from the Presidency. At present the majority of the candidates successful at these examinations come almost entirely from Government and the Missionary colleges.

13. *Research Scholarships.*—During the year under review three post-graduate scholarships of Rs. 100 each, tenable for a maximum period of three years, were founded by Government with a view to encourage the prosecution of original research by graduates of the Calcutta University. The conditions on which these scholarships can be held are that candidates for them must have passed the M.A. examination, or must have obtained some equivalent degree in Medicine, Law or Engineering within three years previous

to the date of application. Ordinarily, two of the scholarships will be granted to graduates who take up scientific research, while the third will be awarded to a candidate who engages in original investigation in literary subjects, including Philology, History, Philosophy, Political Economy, &c. The scholarships for the year 1900 have been granted to three graduates, of whom one has taken up Mathematical Physics, another is engaged in Physico-Chemical research, and a third is engaged in investigations regarding the Literature, Science, &c., of the ancient Arabs.

14. *Secondary Education.*—The main statistics relating to secondary schools for the last five years are contained in the subjoined statement.

Year.	Number of schools.	Number of pupils.	EXPENDITURE FROM—		
			Public funds.	Private funds.	Total.
			Rs.	Rs.	Rs.
1895-96	... 2,422	207,542	6,07,983	22,61,106	28,69,089
1896-97	... 2,451	215,131	6,01,526	22,95,876	28,97,402
1897-98	... 2,453	220,159	5,99,672	23,46,117	29,45,789
1898-99	... 2,471	224,533	5,68,462	23,60,828	29,29,290
1899-1900	... 2,441	230,433	5,66,897	24,63,694	30,30,591

The steady progress in the number of secondary schools has not been continued during the year under report, there having been a decrease of 30. This has not affected the number of pupils which, when compared with the figures for last year, shows an increase of 11 per cent. High English schools advanced both in number and strength. The growth and extension of middle schools (both English and Vernacular) alone were arrested. The Director remarks that schools of this class are losing in popularity, and their outlook is not bright. It is the anxiety of ambitious youths to obtain a smattering of English as an avenue to employment that leads them to neglect these schools, but it must be remembered that "the existence of these schools also serves the useful purpose of the promotion of education of the masses, for the pupils receive a much sounder education in these schools than they could in an average *pathshala*. Those, again, in the middle stage who proceed to the High English schools are able to prosecute the study of English under much better conditions." The Lieutenant-Governor entirely agrees with the views of the Director as to the need of a sound vernacular training preliminary to English education. The orders which have recently been issued by Government, remodelling the system of vernacular education in this Province, will place matters, he trusts, on a more satisfactory footing.

It will be seen that during the last five years the expenditure from public funds has gradually been reduced and the contribution from private funds has increased by Rs. 2,02,588. The policy of allowing private enterprise to exploit this class of schools, so far as this can be done without impairing their efficiency, has been kept in view. Much improvement remains to be effected in the standard of attendance of the students which is very low as compared with similar schools in England.

15. *High Schools.*—These schools increased from 419 with 93,680 pupils to 462 with 105,954 pupils. The number of schools managed by Government and Municipal Boards remained stationary, while the aided schools advanced by 23 and the unaided schools by 20. There has been a satisfactory increase in the strength of all these schools.

At the University Entrance examination 5,089 candidates attended as against 4,798 in the preceding year, of whom 3,155 passed as against 2,922, the percentage of success having risen from 60.9 to 61.9.

16. *Drawing.*—The percentage of the number of pupils examined in drawing at the Entrance examination increased by 3.9, but the percentage of successful pupils dropped by 28.1, due presumably to the test having been severer than in the previous year. At present, however, in many schools lack of money prevents the employment of a separate master for drawing. This defect is being gradually lessened as it is now the practice to insist upon provision being made for a separate drawing master in aided schools, when the question of a new grant or the renewal of an existing grant is under consideration.

17. *Middle Schools.*—Middle English schools decreased by 24, or by 2.5 per cent, and the number of pupils in them by 3,216, or by 4.6 per cent. The

schools managed by Government remained stationary, while those managed by District or Municipal Boards increased by 6. The aided and unaided middle English schools decreased by 10 and 20, respectively. The attendance diminished in all classes of schools except in those managed by Municipal or District Boards.

Middle vernacular schools decreased by 49, or by 4 per cent., and the attendance in them by 3,163, or by 5 per cent. In the preceding year the attendance had decreased by 8 per cent.

18. *Middle Scholarship Examination.*—The following table exhibits in a condensed form the results of the Middle Scholarship examination from the two classes of schools (middle English and middle vernacular) for the last two years :—

		1898-99.			
		Number of candidates.	PASSED AT THE—		Total.
			Middle English examination.	Middle Vernacular examination.	
Middle English schools	...	3,685	1,414	1,215	2,629
„ vernacular schools	...	3,487	179	2,268	2,447
		<hr/>	<hr/>	<hr/>	<hr/>
Total	...	7,172	1,593	3,483	5,076
		<hr/>	<hr/>	<hr/>	<hr/>
		1899-1900.			
Middle English schools	...	2,992	987	925	1,912
„ vernacular schools	...	2,913	100	1,667	1,767
		<hr/>	<hr/>	<hr/>	<hr/>
Total	...	5,905	1,087	2,592	3,679
		<hr/>	<hr/>	<hr/>	<hr/>

This great falling off can be assigned only to the unpopularity which at present attends middle school education.

19. *Bifurcation of Studies in High Schools.*—In accordance with the recommendation of the Education Commission, a scheme was sanctioned during the year for the bifurcation of studies in high schools. Under this scheme a student, after passing the annual examination of the third class, will have the option of continuing his studies for the University Entrance examination or of taking up a practical course more adapted to commercial than literary pursuits. This practical course, or “modern side” as it may be termed, is divided into two classes: one for the instruction of boys who elect to take up Engineering or similar subjects, the other to train those who elect to follow an industrial career. The “modern side” students will be subjected to an examination after two years’ training. The successful candidates in the Engineering branch will be allowed to continue their studies in the Sibpur Civil Engineering College, while those in the industrial subjects will be granted pass certificates equivalent to the Entrance examination certificates. The latter will also be eligible for a higher course of instruction, which would last two years, the final examination at the end of this period being held equivalent to the University F.A. examination.

20. *Discipline and moral training.*—Breaches against discipline and morality appear to have been few, and the offenders in each case were adequately punished. A teacher no doubt can do much to elevate the moral tone of his school, but it is at home that a boy’s moral character is formed, and the school-master cannot succeed without the assistance of parental influence. Misconduct on the part of teachers, Mr. Pedler says, was “confined chiefly to the primary schools, the teachers of which are generally ill-paid and ill-educated, and in whose case the temptation to earn a few additional rupees by unfair means, or by presenting false musters at the reward examinations, is too strong to be resisted.”

21. *Transfer rules.*—The transfer rules appear on the whole to have worked smoothly in all classes of secondary schools and to have been conducive to the maintenance of discipline. In the case of primary schools, Sub-Inspectors should carefully explain to the gurus the aim and object of the rules, which at present the latter break chiefly on account of ignorance.

22. *Boarding-houses.*—The number of boarding-houses for Indian pupils of educational institutions rose from 222 with 6,158 inmates in 1898-99 to 230 with 7,004 inmates in 1899-1900. The steady increase in the number of these

institutions, which are most necessary for the improvement of the tone and discipline of schools, is very satisfactory. The total expenditure on these institutions was Rs. 2,37,041 in 1899-1900 as compared with Rs. 2,41,456 in 1898-99, of which Rs. 16,292 was contributed by Government. Why with so great an increase in the number of residents the total expenditure decreased so largely is not explained. Partly, but not wholly, it may no doubt be due to the economy resulting from dealing with larger numbers.

23. *Physical exercises.*—The importance of physical training received attention; but, with the exception of the high schools, there seems to be no systematised form of physical exercise. In the year under review, it was decided to make drill a compulsory subject for all students in zilla and collegiate schools, it being left to the school authorities to exempt such students from this form of exercise as were physically unfit; and a drill-book was issued. Of European games, football and cricket are the favourites. Indigenous games, like *kapati* or *hadoodoo*, are also played in schools in which the boys cannot afford to purchase costly apparatus. The Lieutenant-Governor is glad to find from the Director's report that several of the District and Subdivisional Officers took an interest in stimulating physical education among the boys by organising for them annual athletic sports.

He has however, seen with much regret the long list of High English schools in which so far drill has not been introduced, and he directs that, with regard to such of them as are in receipt of Government aid, this assistance shall be discontinued unless drill is made a compulsory subject as in zilla schools.

24. *Primary education.*—The number of primary schools and their pupils during the past five years is shown in the following statement:—

YEAR.	UPPER PRIMARY.		LOWER PRIMARY.	
	Schools.	Pupils.	Schools.	Pupils.
1895-96	3,944	153,070	47,054	1,087,356
1896-97	4,029	162,102	45,612	1,081,432
1897-98	4,107	165,057	43,482	1,036,635
1898-99	4,232	173,885	44,080	1,061,477
1899-1900	4,300	176,963	43,807	1,067,837

It is satisfactory to note that the number of upper primary schools and the number of pupils attending them are steadily advancing, and also that though the number of lower primary schools slightly decreased during the year in comparison with that of the previous year, the attendance in them has been increasing during the last two years.

25. *Cost of primary education.*—The expenditure incurred from the primary allotment by the Department and by the District Boards on account of schools for Indian boys and girls and of the subsidiary agency is compared for the last two years in the following statement:—

	From Provincial Revenues.		From District Funds.		Total.	
	1898-99.	1899-1900.	1898-99.	1899-1900.	1898-99.	1899-1900.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
To stipendiary schools	1,18,950	1,22,619	1,54,101	1,61,719	2,73,051	2,84,338
.. non-stipendiary schools	22,083	19,556	3,27,647	2,84,983	3,49,730	3,04,539
.. payments to primary schools under the District Boards or Department, or such as are not included in the above.	1,317	4,519	3,010	7,597	4,327	12,026
.. rewards to teachers of primary schools for passing pupils at scholarship examinations.	9,319	12,334	51,432	96,511	60,751	1,08,845
.. charges for abolished schools	3,502	2,400	12,098	10,935	15,600	13,335
.. buildings and furniture	6,736	5,716	9,055	1,563	8,791	7,279
.. subordinate inspecting agency	13,640	15,174	87,887	87,916	1,01,527	1,03,090
.. lower primary scholarships created from the primary grant.	2,453	3,227	24,443	24,862	26,896	28,089
.. miscellaneous	14,626	13,291	52,153	45,441	66,779	58,732
Total payments	1,92,716	1,98,836	7,14,826	7,21,437	9,07,542	9,20,273
Add 80 per cent. of the actual charges on account of Sub-Inspectors.	20,706	21,776	1,42,505	1,55,899	1,63,311	1,77,675
GRAND TOTAL	2,13,422	2,20,612	8,57,331	8,77,336	10,70,753	10,97,948
Total allotment, excluding the allotment for Sub-Inspectors.*	1,98,526	2,03,260	7,55,253	7,47,886*	9,53,779	9,51,146
Actual savings	5,810	4,424	40,427	26,449	46,237	39,875

* Allotment for Sub-Inspectors was Rs. 2,04,263.

In comparison with the previous year the expenditure on primary schools both from Provincial Revenues and District Funds increased; but the figures in the table do not include all the charges from Provincial Revenues on primary education, since it excludes those paid for primary schools from the grant-in-aid and circle funds.

It is seen also that while the departmental budget grant for primary schools increased, that from District Funds decreased, the reason for which is not discussed by the Director. A large portion even of this reduced allotment remained unexpended during the year, and in this respect the District Boards of Shahabad and Mymensingh were the worst offenders. On this point the Director remarks—

That nearly Rs. 50,000 available had not been spent on primary education by the District Boards concerned would be a very serious matter, and would be almost sufficient to prove a want of proper supervision on the part of such bodies. If large sums are due to uncashed cheques as explained, then the charge of want of interest in the work of primary education could not be maintained. At all events any savings in the amount for primary education in one year should be made available for the extension of education in the following year. In order to test whether this procedure is followed, a full enquiry will be instituted as to whether the savings were re-allotted for the purposes of education or allowed to merge in the General District Fund.

The result of this enquiry should be noticed in next year's report. Very probably much of this nominal saving is due to uncashed cheques, despite the fact that stringent orders were issued on the subject last year.

26. *Comparison of cost of Upper and Lower Primary Schools.*—It appears from paragraph 12, Section IV, of the Director's report that the cost of each upper primary school increased, while that for each lower primary school decreased. The cost per pupil per annum, in annas, increased in upper primary schools from 19·8 to 20·7, and in lower primary schools decreased from 10·2 to 10·1.

Great diversity appears to prevail in the various districts in respect of the administration of the funds for primary education. The Lieutenant-Governor recognises that different localities require different treatment, and that no fixed uniform standard can be laid down, but he trusts the local authorities will carefully consider, in consultation with the Inspectors, the conditions and requirements of their respective municipalities.

27. *Primary Scholarship Examination.*—The results of the Upper Scholarship examination for the last five years are shown in the table

Year.	Competing schools.	Successful schools.	Candidates examined.	Successful candidates.	Percentage of successful schools.	Percentage of successful candidates.
1	2	3	4	5	6	7
1895-96 ...	2,637	1,942	6,162	3,466	73·0	56·2
1896-97 ...	2,682	2,037	6,518	3,824	75·9	58·6
1897-98 ...	2,647	2,116	6,113	4,051	79·9	66·2
1898-99 ...	2,669	2,280	7,367	4,386	76·8	59·6
1899-1900 ...	2,959	2,343	7,206	4,637	79·1	64·3

The Director remarks that—

Compared with the preceding year, however, the result of the year under review is an appreciable advance, and perhaps the percentage of success is settling down to a normal standard.

It is to be noted that the figures in the table above do not represent the total number of passes at the Upper Primary Scholarship examination, for they exclude 2,175 boys that passed during the year under review from middle and special schools.

In the Lower Primary Scholarship examinations so far as lower primary schools are concerned, there was an increase both in the number of competing and successful schools. The number of examinees increased by 4.6 and that of the passed candidates by 1.6 per cent. There were, besides, 40,846 candidates that passed the Lower Primary Scholarship examination from schools other than lower primary ones. Any approach to uniformity in the results is wanting, probably because the answer papers are valued by local examiners.

28. *Night Schools.*—There was a decrease in the number of these schools in comparison with the previous year. Some inspecting officers are also reported to have “grave doubts about the *bona fides*” of these schools. The Director, moreover, writes—

Abuses and malpractices there are no doubt. But a careful watch over these schools may reduce the evils to a minimum in the same way as the evils in regard to the season pathshalas have been almost eradicated. Considering the little leisure that the children of the masses have to attend schools, the night schools afford a good means of supplementing their imperfect education, and such schools should be encouraged, and should do good, if they are carefully worked out and malpractices are cautiously guarded against.

The Lieutenant Governor concurs with the views of the Director, and desires that the matter may be discussed more fully in the next year's report. Meanwhile the inspecting staff should give their careful attention to this class of school.

29. *School Post Offices.*—The number of school post offices was 781 as in the previous year. They are reported to have worked well in almost all the Divisions.

Training Schools.—During the year under review there were, as in the previous year, 29 training schools—19 for masters and 10 for mistresses. The latter were all aided. Of the former, 11 (8 first grade and 3 of lower grades) were maintained by Government, and 8 were aided. The attendance at the schools for masters increased from 808 to 845; at the schools for mistresses it rose from 456 to 669. The expenditure from Provincial Revenue on all training schools amounted to Rs. 1,01,917 as against Rs. 1,05,199 in the previous year. The 8 Government first grade schools teach general subjects up to a high standard through the medium of the vernaculars, and in addition instruct students in the theory and practice of teaching, practising schools being attached to the training schools for the exercise of the students. The course of training extends over a period of three years, and the final certificates granted by the Education Department on the results of the Vernacular Mastership examination constitute passports to the employment of the recipients as senior vernacular masters in middle schools. Of the aided schools for masters, only the one at Krishnagar conforms to the departmental standards and sends up candidates for the Vernacular Mastership examination. Similarly, but few of the aided schools for mistresses send up candidates for the departmental senior and junior and Female Teachership Certificate examinations. The necessity of continuing aid to those schools which do not conform to the standard should be discussed by the Director when later on he reports with regard to Training Schools generally. There were 115 candidates for the last Vernacular Mastership examination of the first grade, of whom 79 passed, as against 73 out of 96 at the previous year's examination. That the Education Department suffers for want of properly qualified teachers is known, but the opening of the Training College at Kurseong will gradually remove this defect and facilitate the introduction of the reforms which the Director so much desires.

31. *English Teachership classes.*—The Lieutenant-Governor has read with interest the Director's remarks on the subject of the English Teachership classes attached to the training schools at Calcutta, Patna, Dacca and Cuttack. The failure of the scheme is, in the Director's opinion, due in great measure to the classes being attached to vernacular training schools. It appears that the abler of the College students do not relish the idea of completing their education at the vernacular training schools; that the practising schools attached to those schools being necessarily worked on a vernacular basis do not afford sufficient scope for the training of teachers who will teach in English secondary schools; and that the practice of holding a common theoretical examination for all classes of candidates tends to make the examination

too difficult for candidates of inferior general attainments. At the last examination only seven candidates passed out of 30, and the total number of passes at the four examinations, which have been held since the inauguration of the scheme, comes up to only 26—a small success entirely out of proportion to the expenditure incurred. The Lieutenant-Governor acquiesces in the Director's desire to await the results of another year before deciding on the reforms needed in this branch of the department.

32. *Law classes.*—There are no institutions in Bengal exclusively devoted to the teaching of Law. Law classes are attached to some of the first grade Arts Colleges which are attended by students who desire to go up for the B.L. or the Pleadership examination. During the year under review the number of institutions teaching Law was, as in the previous year, 17. The number of students attending Law classes fell off from 1,305 to 1,260, or by 145. The decrease occurred in unaided colleges, at which, however, nearly four-fifths of the students are trained, the Ripon College having nearly one-third of the total number.

The number of students reading for the B.L. examination increased by 37, while the number of those preparing for the Pleadership examination decreased by 82. In 1899-1900, 451 candidates appeared at the B.L. examination, of whom 102 only passed, as compared with 206 out of 450 candidates in the preceding year. This remarkable variation the Director does not explain. It seems that the standard of the examination has been largely enhanced.

33. *Medical Institutions.*—The returns show that these decreased from 11 to 9, and the number of students from 1,709 to 1,582. The Calcutta Medical College is the only institution affiliated in Medicine to the Calcutta University. The total strength of the College on the 31st March 1900 was 502 as against 477 on the same date of the previous year. The expenditure on the College during the year amounted to Rs. 1,84,325, of which Rs. 1,05,600 was paid from Provincial Revenues, and Rs. 35,269 was realised from fee-receipts. The students of the Medical College are required to undergo three University examinations during their five-years' study, viz., the Preliminary Scientific examination at the end of the second year, the first L.M.S. or first M.B. examination at the end of the third year, and the second L.M.S. or second M.B. examination at the end of the fifth year. During the year under review two candidates passed the second M.B. and 35 the second L.M.S. examination as against 3 and 51, respectively, during the previous year. As was the case last year, no candidate appeared for examination for Honours in Medicine or for that of Doctor in Medicine. The Lieutenant-Governor regrets to see the small number of passes, and is surprised to learn that out of the 52 students who obtained scholarships on the results of the last F.A. examination, only one made his scholarship tenable at the Medical College. The control of medical education is now in the hands of the Inspector-General of Civil Hospitals, who will be consulted as to the cause of the apparent unpopularity of medical studies.

Besides the Medical College, Government maintains four vernacular medical schools, viz., the Campbell Medical School at Calcutta, the Temple Medical School at Patna, the Dacca and the Cuttack Medical Schools. The number of pupils on the rolls of the several schools on the 31st March 1900 was as follows:—

At the Calcutta school	...	...	...	212
„ Dacca „	...	...	...	176
„ Patna „	...	...	...	151
„ Cuttack „	...	...	...	98

The total expenditure from Provincial Revenues on the four schools amounted to Rs. 90,976, while that from fee-receipts came to Rs. 18,892. In all 81 students passed the final examination of the vernacular medical schools—22 (including three females) from the Campbell School, 23 from the Patna School, 19 from the Dacca School, and 17 from the Cuttack School.

Besides the four Government medical schools already noticed, there were four unaided medical schools, including a homœopathic school and an “electric medical school.” The total number of pupils attending these schools was 443.

34. *Sibpur Engineering College.*—The strength of the College on the 31st March 1900 was 105 for the Engineer Department, 156 for the Apprentice Department and 6 in the Artisan class, or a total of 267 against 294 last year. The Engineering Department consisted of 98 Hindus, 5 Europeans and Eurasians, and 2 Muhammadans. The Apprentice Department consisted of 132 Hindus, 20 Europeans and Eurasians, and 4 Muhammadans. Out of 28 candidates for the B.E. and L.E. examinations, which are really one examination, no less than 14 candidates passed as against 4 out of 20 at the previous year's examination. For the F.E. examination there were 44 candidates, of whom 30 passed. On the results of the examinations in the Apprentice Department, 28 Overseers' certificates and 31 Sub-Overseers' certificates were issued as against 5 Overseers' certificates and 17 Sub-Overseers' certificates in the year 1898-99. The six technical schools affiliated to the College sent up 64 candidates for its second-year examination in the Apprentice Department, of whom 23 passed. The failures occurred mainly in practical work. In the newly-opened Agricultural Department, 9 passed out of the 11 students in the upper class, and both students of the lower class passed. The passed students are undergoing a course of practical training under the Director of Land Records and Agriculture. The final examination of those who joined the Agricultural Department in 1898 was held in July 1900. The Artisan class of the College showed a little more vitality than in the preceding year, there being six students as against one. The teaching in this class is through the medium of the vernacular. Two students during the year took mining scholarships, but no student underwent a course of electrical engineering.

The Director should consider and report whether in the interests of the B.A. students the present rules as regards their admission should not be modified so as to ensure their having a proper practical training.

The Lieutenant-Governor has heard with much satisfaction that all the passed Engineering students of 1899 have secured appointments.

Th 35. *The Bihar School of Engineering.*—The course of instruction followed in this school is the same as in the Apprentice Department of the Civil Engineering College at Sibpur, and in this year was extended to the overseer standard. On the 31st March 1900 there were 90 students on the rolls of the school, of whom 58 were Biharis and 32 Bengalis, 23 of the latter being domiciled in Bihar. Sixty-three of the students were taught in English and 27 through the medium of the vernacular. On the results of the examination held in January and February 1900, 31 sub-overseers' certificates were awarded. A European foreman mechanic was appointed to the workshop during the year, and he is reported to be working with excellent results. At the examination of the *amin* class held in April 1899, 23 out of 34 candidates passed, and were awarded First Survey Standard certificates. The total fee-receipts amounted to Rs. 1,458. The total expenditure from Provincial Revenues came up to Rs. 17,685. An amount of Rs. 1,018-7-6, being the sale-proceeds of articles manufactured in the workshop, was paid into the treasury.

36. *Reformatory Schools.*—The two reformatory schools at Alipore and Hazaribagh were transferred from the control of the Jail to that of the Education Department, with effect from the 1st January 1900. On the 31st December 1899 there were 179 boys at Alipore and 237 at Hazaribagh. At both places the boys are taught how to read and write either Bengali or Hindi, besides Arithmetic. Five of the Alipore boys appeared at the Lower Primary Scholarship examination, and two of them passed in the first division. The trades taught to the boys were carpentry, bookbinding, cane-work, gardening, blacksmithy, tin-work and printing at the Alipore School, and cloth-weaving, tailoring, carpentry, blacksmithy and gardening at the Hazaribagh School. Drill and gymnastics were attended by boys of both schools. Marks for good conduct were earned by 88 per cent. of the Alipore boys and 97 per cent. of those at Hazaribagh.

37. *Survey Schools.*—On the 31st March 1900 the Dacca School had 39 students in the Sub-Overseers' Department and 84 students in the Survey Department as against 46 and 98 students on the same date in the previous year. The Cuttack School had a total attendance of 89 as against 88. Both schools now teach the same course. The Dacca School passed 9 out of 11

candidates for the Sub-Overseers' examination and 28 out of 38 candidates for the Survey Final examination. The expenditure from Provincial Revenues on the Dacca School was Rs. 10,122 as against Rs. 10,284, and on the Cuttack School Rs. 2,943 as against Rs. 2,793 in the preceding year. The Patna School has been amalgamated with the Bihar School of Engineering.

38. *Government School of Art.*—The number of students on the rolls on the 31st March last was 272 as against 265 in 1898-99. The number of students on the practical or industrial side was 255 as against 249, and on the Fine Art side was 17 as against 16 in the preceding year. The average percentage of success at the examination for the industrial division was about 75, and for the Fine Art division it was about 71, the corresponding figures for last year being 59 and 52. During the year under review 26 students of the school obtained appointments as drawing-masters and draughtsmen, as lithographers and painters, on salaries ranging from Rs. 20 to Rs. 50. The Lieutenant-Governor is glad to learn that the lithographs executed by advanced students of the School of Art will be utilised for training schools. As regards the manner in which the School of Art can co-operate with the Public Works Department as suggested by the Principal, the Lieutenant-Governor awaits such suggestions as the Director may consider necessary to make after consulting the Secretary to Government in the Public Works Department.

His Honour desires that in future reports with regard to technical schools the Director would briefly state, concerning each, the defects it suffers from and the measures taken to remedy them.

39. *Female education.*—The main statistics of female education, *i.e.*, the attendance and the expenditure in the schools for native girls, are shown in the following table:—

CLASS OF SCHOOLS.	Number of schools.	Number on the rolls on the 31st of March.	Average monthly roll number.	Average daily attendance.	EXPENDITURE—					Total.
					From public funds.			From private funds.		
					Provincial revenue.	District funds.	Municipal funds.	Fees.	Other sources.	
1	2	3	4	5	6	7	8	9	10	11
					Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Managed by Government	4	345	344	230	22,833	...	...	3,531	425	20,780
Ditto by District or Municipal Boards	1	57	42	30	...	...	201	27	...	228
Aided by Government or by District or Municipal Boards	2,293	50,843	47,347	35,406	65,625	37,828	9,177	20,714	1,26,470	2,68,814
Unaided	421	7,988	6,638	5,164	...	..	...	739	10,081	10,820
Total for 1899-1900 ...	2,719	58,331	54,371	40,830	88,458	37,828	9,378	34,011	1,36,976	3,06,651
						1,35,664			1,70,987	
Total for 1898-99 ...	2,732	57,617	53,563	39,778	86,713	35,886	9,091	33,880	1,76,172	3,30,742
						1,20,690			2,10,052	
Total for 1897-98 ...	2,817	58,807	55,138	41,923		1,30,874			2,11,386	3,42,260
Total for 1896-97 ...	3,218	65,213	60,418	46,105		1,43,597			2,11,811	3,55,408
Total for 1895-96 ...	3,356	65,074	61,444	46,460		1,43,940			2,31,462	3,76,402

There was again a falling off in the number of girls' schools, but the number of pupils attending them slightly increased from 57,617 in 1898-99 to 58,331 during the year under review, but during the last four years the loss in the number of pupils is about 7,000. This is discouraging, but rapid progress in this direction cannot be expected, more especially as the Government is unable to increase the inducements now put forward to further female education. Besides the pupils shown in the above table, there were also 38,988 girls in boys' schools as against 38,083 in the previous year. The net result of the year is a loss of 13 schools and a gain of 1,619 pupils, including the girls in boys' schools. The number of girls' schools and their attendance decreased in the Burdwan and Presidency Divisions, while that of schools and of pupils increased in the divisions of Chittagong and Chota Nagpur and Orissa Tributary Mahals. The town of Calcutta and the Bhagalpur Division lost in schools, but